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SERIES I No. 28

OFFICIAL GOVERNMENT OF GOA GAZETTE



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NOTE

There are three Extraordinary issues to the Official Gazette, Series I No. 27 dated 4-10-2018 namely:-

(1) Extraordinary dated 4-10-2018 from pages 1545 to 1546 from Department of Revenue, Notification No. 16/55/2015-RD regarding appointment of date on which the provisions of Act shall come into force.

(2) Extraordinary No. 2 dated 5-10-2018 from pages 1547 to 1548 from Department of Finance (R&C), Notification No. 4/5/2015-Fin (R&C)/1574 regarding Amendment of Goa Value Added Tax Act, 2005.

(3) Extraordinary No. 3 dated 10-10-2018 from pages 1549 to 1552 from Department of Finance (R&C), Notifications regarding Amendment of Goa Goods and Services Tax Rules, 2017.

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GOVERNMENT OF GOA

Department of Agriculture

Directorate of Agriculture

Notification

3/2/1/CIN/Agro/CFG/D.Agr/447

Sub: Assistance for Community Farming

Government is pleased to introduce the new scheme "Assistance for Community Farming" to tackle the problem of lands being kept fallow and promote group farming.

The details of the scheme and pattern of assistance are given below:

1. *Short title and commencement.*— (a) The scheme shall be called "Assistance for Community Farming, 2018".

(b) It shall come into force from the date of its approval by the Government and shall remain in force till it is withdrawn.

(c) The scheme shall cover all Talukas of the State of Goa.

2. *Objectives.*— (a) To ensure a greener Goa by reducing the trends of fields being kept fallow.

(b) To make agricultural activity more viable due to better economics of scale for cultivation and more efficient marketing of produce.

(c) To ensure more effective management through expertise of some of the members of the group.

(d) Overcome the fear of another individual being giving right to cultivate land staking his claim as tenant since a farmers group is considered a safer option.

(e) More effective use of infrastructure created with assistance of Government as cost of creating multiple individual infrastructures such as fencing, irrigation, machinery, etc. is much higher. This will lead to some savings for Government, e.g. Fencing on outer periphery of a block of fields versus fencing individual plots.

(f) Reduction in nuisance for moving material and machinery due to obstructions of individual fencing.

3. *Eligibility criteria for assistance.*— (a) Group claiming assistance from Community Farming may be of two types:-

(i) *Joint Community Farming:*— Here the entire area of all the members together shall be cultivated as one block in the name of the group i.e. all expenditure for creating infrastructure i.e. onetime costs and cultivation costs (recurring expenses) shall be in the name of the group.

The produce also shall be sold in the name of the group and the proceeds are proportionately shared among farmer members as per terms and conditions agreed at the time of group formation.

(ii) *Loosely Amalgamated Community Farming:*— In this group, the permanent costs on infrastructure such as fencing, wells pump sets, compost preparation units, etc. shall be borne in the name of the group. However, recurring expenses for cultivation shall be borne by members separately and the produce sold in each individual member's name.

(b) The Community Farming Group (CFG) should have a Krishi Card in its name.

(c) The Community Farming Group shall furnish a copy of its first meeting giving details of the group formation, its authorized signatories and list of group members with details of land held or in their possession in the format given at Annexure-I.

(d) The Community Farming Group should have a bank account in a scheduled bank in its own name jointly operated by minimum two members.

(e) A Community Farming Group shall have a minimum of 10 members with total combined land holding exceeding one hectare (10000 sq. mtrs.) in a compact block.

(f) Members comprising the group should preferably have a Krishi Card issued by the

Directorate of Agriculture, Goa. In the event of a member not having a Krishi Card, the Chairman of the Community Farming Group shall certify that the agricultural land in question is in the possession of/being cultivated by the member concerned through a self declaration in the format specified in Note No. 3/5/EXT/26/2015-16/D.Agr/159 dtd. 06-07-2015 of the Directorate of Agriculture preferably the said member shall also furnish a similar declaration as per sample at Annexure II.

(g) The Community Farming Group shall be registered with the Directorate of Agriculture. There will be no objection for such a group to be also registered under the Societies Act, 1860 or with the National Bank for Agriculture and Rural Development (NABARD).

(h) The Community Farming Group shall submit a project report listing various agricultural infrastructure facilities proposed to be developed, crops to be grown, marketing plans etc.

(i) A Community Farming Group would normally be expected to engage in double or triple cropping of field crops. However, groups proposing horticultural development in fallow lands shall also be considered.

(j) The Community Farming Group would have to submit an undertaking stating that it would carry on agricultural activities in the area under the project for atleast five years from date of availing benefits under this scheme failing which the entire assistance provided shall be refunded to Government.

4. Pattern of Assistance:— A Community Farming Group shall be entitled to a project based assistance as under:

(A) Assistance of 100% in case of Community Farming Group wherein 50% or more of the area brought under cultivation has been fallow for more than five years or 90% in other cases on the standard cost/relevant GSR as fixed by the

relevant Cost Estimation Committee of the Directorate of Agriculture from time to time on creation of following infrastructure in common for the entire group:-

- a. Fencing of various types.
- ii. Digging of wells including bore wells.
- iii. Construction of water storage tanks.
- iv. Installation of pump sets.
- v. Installation of Micro Irrigation systems.
- vi. Construction of compost units of various types.
- vii. Construction of biogas unit.
- viii. Purchase of machinery for various agricultural operations including post harvest processing/ /value addition as per minimum area applicable for each type.
- ix. Construction of pump house with provision for storage of agricultural inputs and produce, threshing/drying yards, small warehouses etc.
- x. Repairs/construction of non-notified internal bunds, drainage channels, passages for transport of machinery and produce, conserve soil and water etc.

The assistance for infrastructure above will be limited based on area covered as given below:

| Sr. No. | Area (Ha.) | Maximum assistance (Lakhs Rs./Ha.) |
|---------|-------------|------------------------------------|
| 1 | 1.00-2.00 | 3.00 |
| 2 | 2.01-5.00 | 2.50 |
| 3 | 5.01-10.00 | 2.25 |
| 4 | 10.01-20.00 | 2.00 |
| 5 | Above 20.00 | 1.50 |

A. Assistance as per scheme pattern of assistance as under:-

- i. Purchase of quality seeds/seedlings/ /planting material grain of food crops,

vegetables, sugarcane and horticulture crops.

ii. Assured Price for Agricultural Produce, 2016.

iii. Area expansion on horticultural crops i.e. fruits, flowers and spices including plantation crops.

iv. Purchase of agricultural machinery for land preparation, planting interculture and harvesting under State Sector Scheme "Agriculture".

B. The restrictions of maximum area eligible per beneficiary will be relaxed subject to limits on pro rata basis on total area cultivated in case of Joint Community Farming Group.

C. Preference as applicable will be given to Community Farming Group's in schemes with 100% assistance such as desilting of ponds/tanks, assistance for cultivation of vegetables by Self Help Group's (SHG); distribution of seed, minikits, trainings, demonstrations etc.

(A) *Procedure*:— a. A Community Farming Group desiring to avail benefit under the scheme shall apply to the Zonal Agricultural Officer under whose jurisdiction the area is located in the specified format given.

i. Krishi Card abstract of the group.

ii. List of all members with details of agricultural land held/in their possession and their individual Krishi card number. Copy of resolution selecting members to operate bank account.

iii. Copy of first page of bank passbook.

iv. Certificate of registration of Community Farming Group with the Directorate of Agriculture/Registrar of Co-operative Societies.

v. A Project Report listing various agricultural infrastructure facilities proposed to the developed, quotations/ estimates for the same, cropping pattern, marketing plans, etc.

vi. An undertaking that the Community Farming Group will undertake agricultural activities in the area brought under cultivation for atleast 10 years and that in case of default agreeing to refund back to the Government the entire amount of assistance as decided by the Directorate of Agriculture.

b. The Zonal Agricultural Officer concerned will evaluate the proposal for feasibility and forward it to the District Agricultural Officer concerned to put it up for decision of the High Power Committee along with his detailed report of recommendation.

c. The District Agricultural Officer concerned will evaluate the project including likely financial assistance admissible and forward it to concerned Section of the Directorate of Agriculture to place before the High Power Committee.

d. A High Power Committee consisting of
Hon'ble Minister for — Chairman
Agriculture
Secretary (Agriculture) — Member
Director of Agriculture — Member
Dy. Director of Agriculture — Member

shall examine the project for feasibility and accordingly decide on approval.

e. The Community Farming Group shall take up the project once approval is conveyed and submit completed project file with Invoices/Receipts of payment for settlement to concerned Zonal Agricultural Officer.

f. The Zonal Agricultural Officer shall forward completed cases after due verification and scrutiny to the concerned District Agriculture Officer for settlement.

(B) *Relaxation*: The Government shall be empowered to relax any or all clauses or conditions of the scheme in genuine cases. However for release of financial assistance in such case will be considered only with the approval of the Minister of Agriculture.

(C) *Interpretation*: If any question arises regarding interpretation of any clause, word, expression of the scheme, the decision shall lie with the Government, which shall be final and binding on all concerned.

(D) Redressal of Grievance and disputes: Grievances if any, arising out of the implementation of this scheme, shall be heard and decided by the Minister of Agriculture and his decision in this regard shall be final and binding on all concerned.

This issues with the concurrence of the Finance Department under their U. O. No. 1400054147 dated 08-08-2018.

By order and in the name of the Governor of Goa.

Nelson Figueiredo, Director & ex officio Jt. Secretary (Agriculture).

Tonca-Caranzalem, 1st October, 2018.

ANNEXURE-I

DETAILS OF LAND HELD/IN POSSESSION OF COMMUNITY FARMING IN POSSESSION

| Sr. No. | Name of the member | Krishi Card No. | Land coming under Community Farming in possession | | | | Signature |
|---------|--------------------|-----------------|---|------------------|----------------------|------------------------------|-----------|
| | | | Survey No. | Sub-Division No. | Total Area sq. meter | Area in Possession sq. meter | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

ANNEXURE-II

SELF DECLARATION

I, the undersigned Shri./Smt. _____ resident of _____ Indian National do hereby solemnly affirm as below:-

1. That I am in possession of/cultivating/intending to cultivate agricultural property/properties bearing survey number _____ sub/division number _____ of Village _____ of Taluka _____ admeasuring _____ square metres wherein Shri./Smt. _____ is shown as the Occupant/Tenant on Form I & XIV.
2. That the said Shri./Smt. _____ is/are related to me being my _____ (mention relationship)

OR

That the above said agricultural land is being cultivated by me based on written/oral lease with _____ who is/are the owners/heirs of the owners.

3. That I intend to cultivate the above said agricultural land individually as a member of _____ a community farming group.

OR

That I authorize _____ a community farming group of which I am a member to cultivate the above said agricultural land on my behalf at mutually agreed terms and conditions.

4. That I indemnify the Government of Goa, the Directorate of Agriculture and its Sub-Offices of any financial or legal responsibility/liability should any dispute arise due to this declaration.

I am aware of the fact that if the information given by me is proved false/not true, I will have to face the punishment as per the law. Also all the benefits availed by me shall be summarily withdrawn.

Self
Signed
Photograph

Signature: _____

Name: _____

Contact No. _____

Notification

3/CIN/INM/Org-Govt/4/2018-19/D.Agr/452

Increasing health consciousness and concern for environment is drawing attention to organic farming. Application of chemical pesticides is increasing associated with the negative impact to human health and environment. There is a need to promote organic farming for healthy food, ecology and pollution free environment, while maintaining the soil and environment, with the process to reduce the dependence on harmful agro chemical and to supplement them with viable alternatives.

Organic agriculture is a production system that sustains the health of soils, ecosystem and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation & service to benefit the shared environment and promotes fair relationships and a good quality of life for all involved.

Therefore the Government is pleased to launch and notify a scheme for the same as under:

1. *Short title & commencement*:— (i) The scheme shall be called as “Promotion of Organic Farming 2018”.

(ii) This scheme shall come into force from the date of its notification in the Official Gazette and shall be in force till the same is amended or terminated by the Government.

2. *Objective of the scheme*:— (1) To promote Organic farming in the state and to benefit economically and ecologically.

(2) To promote and help farmers to substitute harmful agro chemical like fertilizer/pesticides with Bio-fertilizers/bio-controls for clean environment and health of human and animals.

(3) To promote and assist conversion of organic waste into organic manure.

(4) To make available healthy foods for healthy living and enhance farm income through premium rates in organic markets.

(5) To create greater awareness and motivation for organic farming and organic foods among producers and consumers.

(6) To conserve and make available traditional local varieties for organic farming.

3. *Components of the scheme*.— The scheme would be implemented with following components:

(1) Assistance for purchase of organic inputs.

(2) Organic inputs to encourage Organic farming.

(3) Organic farming demonstrations.

(4) Assistance for conservation of traditional seed varieties for organic farming.

(5) Awareness and publicity in Organic farming.

(6) Assistance for setting up of Organic/ Bio input production unit.

(7) Model organic farms.

(8) Promotion of local farmers markets.

4. *Eligibility*.— (1) All categories of farmers/ individuals/institutions/Self Help Groups/ NGOs/Farmers Club, who are carrying out agricultural activity or directly involved in Agriculture activity in the State and are having a Krishi card.

(2) For availing assistance for items shown at Sr. No. 4, 6 and 8 Krishi card is desirable.

5. *Pattern of assistance*.— (1) Assistance for purchase of Organic inputs:

(a) Assistance towards purchase for inputs such as Organic manures, City compost, Vermi-compost, Press-mud, Neem cake, Edible/Non edible ground oilseed cakes, bone-meal, enriched organic manures, and all those bulky organic fertilizers recommended for use in organic farming or by National Programme for Organic Production (NPOP)/National Centre for Organic Farming (NCOF) to the extent of 50% cost limited to Rs. 10,000/- per hectare and maximum up to 2 hectare per beneficiary.

(b) Assistance would be provided for purchase of Bio-fertilizers, Bio-pesticides, Bio-insecticides, Bio-stimulants, Bio-control agents, Bio-control aids, pheromone traps, light traps, etc. to the extent of 75% of the cost on all the products covered under National programme for Organic Production (NPOP)/National Centre for Organic Farming (NCOF)/Fertilizer Control Order, 1985/Insecticide Act, 1968 limited to Rs. 5,000/- per hectare with maximum up to 2 hectare per beneficiary.

Products under the category “all other products certified for use in organic agriculture” shall be assisted up to 50% of cost, limited up to Rs. 5000/- per hectare with maximum up to 1 hectare per beneficiary.

(2) *Organic inputs to encourage Organic farming.*— Organic farming inputs for Nutrient management, Pest management, Disease management, Moisture management, Composting cultures, Composting/Vermi-composting units, Composting aid/tools/kits, etc. shall be supplied as per norms and pattern of assistance approved by Government in order to boost organic farming and help to change from conventional farming to organic farming.

(3) *Organic farming demonstrations.*— Assistance shall be provided for conducting demonstration on 0.4 hectare area to promote organic farming techniques and concepts, demonstration of farm machinery and equipments used for organic farming, etc. at multi locations for field level acceptance and shall be proposal based. Such demonstration shall be undertaken by Zonal Agriculture Offices, Farm Superintendent, Mechanical Cultivation Offices, Krishi Vigyan Kendra, Agriculture Technology Management Agency (ATMA) Institutions, Self Help Groups, Societies involved in agriculture, Sugar factory, etc. on Government farms/Institution farms/Progressive farmers field or farm, community cultivation, etc.

The assistance provided for one demonstration shall cover 100% cost towards

purchase of inputs for nutrient, pest, disease, weed management, cost of demonstration of farm machinery/equipments for aiding in organic farming.

The total cost of one demonstration shall be limited to maximum up to Rs. 20,000/-.

(4) *Assistance for conservation of traditional seed varieties for Organic farming.*— Assistance shall be provided to Government farm/recognised bodies involved in Biodiversity/registered farmer/grower/conservators of traditional local varieties of the State for crops like Paddy, Ragi (finger millets), pulses, brinjal, bhendi, chillie, sweet potato, watermelon and all other crops and varieties as approved by the Committee set up by Department of Agriculture. The traditional varieties should not have cultivation area in the State of more than, in case of field crop 100 hectares and in case of vegetable/other crops 20 hectare. As an incentive to preserve the cultivation of these traditional varieties which are on the verge of extinction and make available these seeds for organic farming, financial assistance provided is;

1. For field crops like paddy/pulse, etc. the minimum area shall be 250 sq. mts. and maximum area shall be 500 sq. mts. with financial assistance at the rate of Rs. 20/- per sq. mts. on prorata basis. The farmer shall give 5 kgs. of his/her seeds to the Department of Agriculture at the time of claim.

2. For vegetables crops the minimum area shall be 50 sq. mts. and maximum area shall be 500 sq. mts. with financial assistance at the rate Rs. 30/- per sq. mts. on prorata basis. The farmer at the time of claim shall give his/her seeds to the Department of Agriculture as: (1) Varieties with small seeds minimum quantity shall be 50 gms. (2) Varieties with larger seeds minimum quantity shall be 100 gms.

3. For any other crops/varieties the area and pattern of assistance shall be decided by the Committee set up by Department of Agriculture.

(5) Awareness and Publicity for organic farming: Promotion for creating mass awareness about organic farming techniques, methods, knowledge on best organic practice guide, organic based nutrient/pest/disease/weed/moisture management, compost making techniques, etc. for the producers and importance of healthy foods through organic farming to the consumers through pamphlets, leaflets, banner, bill boards, exhibition stall, print and electronic media.

(6) Assistance for setting up of organic/bio input production unit: Assistance shall be provided for project based organic/bio input production unit with capacity to cover 10 hectare area at village level for production of locally available bio inputs to meet the requirement of the farmers undertaking organic cultivation. Financial assistance for the project shall cover the fixed cost towards laying of concrete ground platform, cost of hardware items, plasticware, necessary tools, equipments, etc. and recurring cost of items shall be @ 50% cost with maximum assistance maximum up to Rs 25,000/unit.

The cost of laying of PCC (1:2:4) with 12 mm. cement finished plaster (1:3) ground platform having a size of 3mt. x 4mts. is estimated at Rs 15,000/-.

(7) *Model organic farms*:— Government farms/institutional farms/progressive farmers shall be encouraged to convert to organic farms where the farms shall act as hubs of excellence for scientific demonstrations, training and learning aspects in organic cultivation. Assistance shall be provided to farms on project basis to cover minimum area of 1.0 hectare with financial assistance for purchase of nutrients, soil conditioner, set up bio-production unit, composting unit, practise green manuring, rotation with nitrogen fixing Vesicular Arbuscular Mycorrhiza (VAM) promoting crops, mulching, etc. Assistance for Government farms assistance @ 100% of cost, maximum upto Rs. 1.5 lakhs/farm to be released in 3 annual instalments of 80:10:10 over 3 years and for institutional/progressive farmers farms @ 90% cost,

maximum upto Rs. 1.0 lakhs/farm to be released in 3 annual instalments of 80:10:10 over 3 years. The cost of labour shall not exceed 15% of the total cost.

(8) *Promotion of Local Farmers Market*: Support to local/weekly farmers market including web based or App based market for sale of local produce to the local community. NGO's/Self Help Groups/ Farmers Club involved in direct selling of local produce to the local community can be assisted for promotion of these markets through advertisement material, dismantable temporary sale counters (canopies), cost towards web/App based (online), etc. upto 90% of the total cost with maximum limit up to Rs. 1,00,000/- per market. The cost of labour shall not exceed 15% of the total cost.

The assistance provided by Government of India towards above programme under any other scheme would be adjusted within the total subsidy and balance subsidy shall be paid by the State Government.

(6) *Guidelines and procedure*.—(i) The applicant shall submit their application/proposal for availing assistance under the scheme to the Zonal Agriculture Officer (ZAO).

(ii) The Zonal Agriculture Officer shall process the cases and forward the cases to the District Agricultural Officer North/South for sanction and payment.

(iii) The Dy. Director of Agriculture (CIN) shall fix the norms and pattern of assistance for supply of organic inputs with Government approval.

(iv) Proposal received under Organic farming demonstrations shall be scrutinized by the Zonal Agricultural Officer. This proposal along with recommendation shall be submitted to Dy. Director of Agriculture (CIN) for approval.

(v) Under Conservation of traditional seeds component, the Zonal Agricultural Officer shall identify and register the seed grower with Dy. Director of Agriculture (CIN). The Zonal Agricultural Officers shall

receive the claim and submit his detail report along with the seed to Dy. Director of Agriculture (CIN) for approval.

(vi) Dy. Director of Agriculture (CIN) shall approve from Director of Agriculture all expenditure to be incurred under the component awareness and publicity for organic farming.

(vii) Proposal received towards setting up of organic/bio input production unit shall be scrutinized by the Zonal Agricultural Officer and along with feasibility report and recommendation to be submitted to Dy. Director of Agriculture (CIN) for approval by Director of Agriculture.

(viii) Proposal received of institution farms/progressive farmers under Model organic farms shall be scrutinized by the Zonal Agricultural Officer for feasibility, centre for demonstration and learning aspect, etc. The proposal along with the recommendation shall be submitted to Dy. Director of Agriculture (CIN) for approval by Director of Agriculture.

Proposals of Government Farms shall be submitted to Dy. Director of Agriculture (CIN) for approval by the concern Farm Superintendent through the Asst. Director of Agriculture (Farms).

(ix) Proposal received under promotion of "local farmers market" shall be scrutinized by the Zonal Agricultural Officer for feasibility, cost benefit, public accessibility, local requirement, etc. Proposal meeting this requirement only should be submitted to Dy. Director of Agriculture (CIN) for approval by Director of Agriculture. Proposals for web/App based markets shall be scrutinized by Dy. Director of Agriculture (CIN) for approval by Director of Agriculture.

(x) The subsidy will be disbursed to the applicant only through Electronic Clearance System (ECS).

7. *Relaxation.*— The Government shall be empowered to relax any or all clauses or

conditions of the scheme in genuine cases. However, for release of financial assistance in such case will be considered only with the approval of Finance (Exp.) Department.

8. *Interpretation.*— If any question arises regarding interpretation of any clause, word, expression of the scheme, the decision shall lie with the Government, which shall be final and binding on all concerned.

9. *Redressal of Grievances and Disputes.*— Grievances if any, arising out of the implementation of this scheme, shall be heard and decided by the Minister for Agriculture and the decision of the Minister of Agriculture in this regard shall be final and binding on all concerned.

This issues with the concurrence of the Finance Department under their U. O. No. 1400055502 dated 07-09-2018.

This supersedes the earlier notification No. 3/CIN/INM/Org-Govt./4/2016-17/D.Agri/144 dated 27-05-2016.

By order and in the name of the Governor of Goa.

Nelson Figueiredo, Director & ex officio, Jt. Secretary (Agriculture).

Tonca-Caranzalem, 5th October, 2018.

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Department of Finance
Revenue & Control Division

Order

12/2/2002-Fin(R&C)/Part/1569

The Government of Goa is hereby pleased to further amend the "Scheme for Payment of Pensions of Pensioners of the Government of Goa through Public Sector Banks" as published vide Government Order No. 12/6/67-Fin.(R&C) dated 08-04-1993, in the Official Gazette, Series I No. 13, dated 24-06-1993, as follows, namely:—

In the Annexure I appended to the "Scheme for Payment of Pensions of

Pensioners of the Government of Goa through Public Sector Banks", after item 8, the following item shall be inserted, namely:—

"9. Corporation Bank."

This order shall come into force with immediate effect.

By order and in the name of the Governor of Goa.

Sushama D. Kamat, Under Secretary, Finance (R&C).

Porvorim, 3rd October, 2018.

Office Memorandum

12/3/82-Fin(R&C)/Vol.I

A copy of the under mentioned Office Memorandum received from the Government of India, Ministry of Personnel, Public Grievances & Pensions, Department of Pension & Pensioners' Welfare, New Delhi, is forwarded herewith for being published in the Official Gazette.

Sushama D. Kamat, Under Secretary, Finance (R&C).

Porvorim, 5th October, 2018.

Government of India

Ministry of Personnel, Public Grievances & Pensions
Department of Pension & Pensioners' Welfare

3rd Floor,
Lok Nayak Bhavan
Khan Market,
New Delhi - 110003
Dated the 18th Sept., 2018.

Office Memorandum

42/06/2018-P&PW(G)

Subject: Grant of Dearness Relief to Central Government pensioners/family pensioners—Revised rate effective from 01-07-2018.

The undersigned is directed to refer to this Department's OM No. 42/06/2018-P&PW(G)

dated 22-03-2018 on the subject mentioned above and to state that the President is pleased to decide that the Dearness Relief admissible to Central Government pensioners/family pensioners shall be enhanced from the existing rate of 7% to 9% w.e.f. 01-07-2018.

2. These rates of DR will be applicable to (i) Civilian Central Government Pensioners/ Family Pensioners including Central Govt. absorbee pensioners in PSU/Autonomous Bodies in respect of whom orders have been issued vide this Department's OM No. 4/34/2002-P&PW(D) Vol.II dated 23-06-2017 for restoration of full pension after expiry of commutation period of 15 years (ii) The Armed Forces Pensioners, Civilian Pensioners paid out of the Defence Service Estimates. (iii) All India Service Pensioners (iv) Railway Pensioners/family pensioners (v) Pensioners who are in receipt of provisional pension (vi) The Burma Civilian pensioners/family pensioners and pensioners/families of displaced Government Pensioners from Burma/Pakistan, in respect of whom orders have been issued vide this Department's OM No. 23/3/2008-P&PW(B) dated 11-09-2017.

3. The payment of Dearness Relief involving a fraction of a rupee shall be rounded off to the next higher rupee.

4. Other provisions governing grant of DR in respect of employed family pensioners and re-employed Central Government Pensioners will be regulated in accordance with the provisions contained in this Department's OM No. 45/73/97-P&PW(G) dated 2-7-1999 as amended vide this Department's OM No. F. No. 38/88/2008-P&PW(G) dated 9th July, 2009. The provisions relating to regulation of DR where a pensioner is in receipt of more than one pension will remain unchanged.

5. In the case of retired Judges of the Supreme Court and High Courts, necessary orders will be issued by the Department of Justice separately.

6. It will be the responsibility of the pension disbursing authorities, including the

nationalized banks, etc., to calculate the quantum of DR payable in each individual case.

7. The offices of Accountant General and authorised Pension Disbursing Banks are requested to arrange payment of relief to pensioners etc. on the basis of these instructions without waiting for any further instructions from the Comptroller and Auditor General of India and the Reserve Bank of India in view of letter No. 528-TA,II/34-80-II dated 23-04-1981 of the Comptroller and Auditor General of India addressed to all Accountant Generals and Reserve Bank of India Circular No. GANB No. 2958/GA-64 (ii) (CGL)/81 dated the 21st May, 1981 addressed to State Bank of India and its subsidiaries and all Nationalised Banks.

8. In their application to the pensioners/ family pensioners belonging to Indian Audit and Accounts Department these orders issue after consultation with the C&AG.

9. This issues with the concurrence with Ministry of Finance, Department of Expenditure's OM No. 1/2/2018-E.II(B) dated 7th September, 2018.

Sd/-

CHARANJIT TANEJA,
Under Secretary to the
Government of India.

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Department of Fisheries
Directorate of Fisheries

—
Notification

DF/OFFS/SCHEME/F.T.C/S.T.T/2018-19

Sub.: Short Term Training in Fisheries

The details of the scheme are as follows:

I. *Short title & commencement.*— This Scheme may be called as "Short Term Training in Fisheries".

II. It shall come into force from Financial Year 2018-19.

1. *Introduction.*— This Scheme has been introduced to educate the Fishermen/Farmer/Entrepreneurs/Students on recent advances in Shrimp farming, Ornamental Fisheries, Seafood value added product preparation, Safety and Communication Equipments, Open Sea Cage Culture, Mussel and Oyster Farming, Reservoir and Inland Cage Culture, Fresh Water Fish Culture, Advancement in craft and gear technologies etc.

2. *Objective.*— The main objective of the scheme is:

- To provide technical and general knowledge about the Aquaculture and Fishing techniques to the Fishermen/Farmer/Entrepreneurs/Students.
- To uplift the skill of the enthusiastic youth who are eager to take fishery for self employment and enabling them to profitably manage their respective business.

3. *Details of Scheme.*— Under the scheme of training programme the following details can be considered:

(a) *Duration:* The training will be for the duration of 2 days, the target of training will be 10 training in a year.

(b) *Advertisement:* The news about the training programme will be announced in local newspaper and on Departmental website.

(c) *Admission:* The candidate will be selected based on the first come first serve basis.

(d) *Venue of training:* Fishermen training center Ela Duaji Old Goa and other places as per the requirement.

4. *Eligibility.*— (a) Candidate should be 18 years and above.

(b) Candidate should be Fishermen/Farmer/Entrepreneurs/Students.

5. *Physical Target.*— The target proposed for the financial year is 20 students per training and maximum 10 training per year.

6. *Pattern of Assistance.*— The cost per training will be amounting to Rs. 24,000/-.

The detail breakup is as follows:

| Sr. No. | Particulars | Amt. (Rs.) | Total Amt. (Rs.) |
|---------|--|------------|------------------|
| 1. | Honorarium to Resources Person | 3000/- | 3000/- |
| 2. | Training Materials @ Rs. 150/- Participants | 20 x 150 | 3000/- |
| 3. | Food & Refreshment @ Rs. 250/- Participant/day | 20x250x2 | 10000/- |
| 4. | Miscellaneous (Purchase of material for sea food value added product preparation Banner, etc.) | 8000/- | 8000/- |
| Total | | | 24,000/- |

7. Budget Head:

2415 – Agriculture Research & Education
 05 – Fisheries
 277 – Education
 01 – Training in Fisheries (Plan)
 20 – Other Administrative Expenses

This issued with the concurrence of the Finance Department vide their FMS No. 1400050779 dated 20-06-2018.

By order and in the name of Governor of Goa.

Shri Vinesh Arlenkar, Director of Fisheries.
 Panaji, 24th September.

Department of Labour

Notification

24/24/2010-LAB/657

In exercise of the powers conferred by Section 62 read with Section 40 of the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (Central Act 27 of 1996) and after consultation with the Expert Committee constituted vide Notification No. 24/24/2010-Lab/530 dated 02-08-2013, the Government of

Goa hereby makes the following rules so as to amend the Goa Building and Other Construction Workers (Regulation of Employment and Condition of Service) Rules, 2008 (hereinreferred as the “Principal Rules”) namely:—

1. *Short title and commencement.*— (1) These rules may be called the Goa Building and Other Construction Workers (Regulation of Employment and Conditions of Service) (Amendment) Rules, 2018.

(2) They shall come into force at once.

2. *Amendment of Rule 272 – (Contribution to the Fund).*— In Rule 272 of the “principal rules” for the words “twenty rupees per mensem” the words “Ten rupees per mensem” shall be substituted. The entire content of Rule 272 (2) remains the same.

3. *Amendment of Rule 276.*— (Maternity Benefit).— In rule 276 of the (First Amendment) Rules, 2015 for the expression “Rs. 2000”, the expression “Rs. 10,000” shall be substituted.

4. *Amendment of Rule 277 – (Eligibility for pension).*— In rule 277 of the “principal rules” the entire contents may be read as follows:

A member of the Fund who has been working as a building workers for not less than one year after the commencement of these rules shall on completion of 55 years of age for men and 50 years of age for women be eligible for pension. The pension will become payable from the first day of the succeeding month to the month in which he completes of 55 years of age for men and 50 years of age for women.

5. *Amendment of rule 278 (5) (Procedure for payment of pension).*— In rule 278 of the (First Amendment) Rules, 2015 the entire contents of clause (5) may be read as follows:

The amount of pension shall be One thousand rupees, per mensem. An increase of twenty five rupees shall be given for every completed year of service beyond two years.

The Board may, with the previous approval of the Government revise the pension. The beneficiary however shall not be entitled to the benefits under any identical schemes introduced by the Government with the exception of the benefits admissible under the statutes in force.

6. *Amendment of rule 279 (Grant for purchase or construction of house).*— In Rule 279 of the (First Amendment) Rules, 2015, the title shall be read as: "Grant for Repair and interest rebate for construction of new House" and the entire contents should be read as follows:

The Board may on application made by a member, in Form XXIX sanction/grant an amount of rupees one lakh for repairs of existing house and an amount upto rupees five lakh towards the interest rebate on loans sanctioned to the beneficiary by banks, financial institutions etc. for construction of new house or reconstruction of an existing ancestral house. The interest paid to the Bank/financial institutions will be reimbursed to the beneficiary over a period of his repayment of Housing loan. The amount reimbursed would depend on the certificate issued by the bank annually subject to maximum total of five lakhs. Upon the death of the beneficiary pending repayment of loan, the spouse or dependent or legal heirs of the beneficiary shall be entitled to reimbursement of the interest payable on under the scheme. The member shall produce along with the application such documents as may be specified by the Board.

7. Insertion of rule 279 (2) and (3) (Grant for purchase or construction of house).— In rule 279 of the (First Amendment) Rules, 2015, the following sub-rule shall be inserted:

No grant under sub-rule (1) shall be sanctioned to those who do not have less than 3 years of service and having fifteen years service as superannuation. A sanctioning committee comprising:

- 1) Under Secretary (Labour).
- 2) Commissioner, Labour & Employment & the Secretary of the Board.

3) Representative of CREDAI.

4) Representative of worker.

shall decide and scrutinize the documentation for the scheme.

(3) A completion certificate shall be submitted to the Secretary of the Board within six months from the date of sanction of grant."

8. *Amendment of rule 280 (Disability pension).*— In rule 280 of the principal rules, the entire contents of clause (1) shall be read as follows:

"Subject to the certification by competent medical authority in Government hospital the Board may sanction an amount of Rs. 2,000/- per month for partial disability and Rs. 5,000/- per month for total disability to the beneficiary who is disable due to paralysis, leprosy, TB, accident, etc. this benefit is over and above the benefit that may be accrued under Employees Compensation Act, 1923. In addition to the pension he will be eligible for one time ex-gratia payment of not more than one lakh rupees depending upon the percentage of disability and subject to such conditions as may be fixed by the Board."

9. *Amendment of rule 281 (Loan for the purchase of tools).*— In rule 281 of the principal rules, for the words "Loan for" in the title shall be substituted by the words "Grant for" Further, the entire contents shall be replaced by the following para:

"An amount of five thousand rupees will be sanctioned as grant to the members of the Fund, for the purchase of tools. Those who have completed three months membership in the Fund and those who remit contribution regularly will be eligible for this grant. An application in Form No. XL shall be made for this grant with such other documents as may be specified by the Board."

10. *Amendment of rule 282 – (Payment of Funeral Assistance).*— In Rule 282 of the

principal rules for the words “five thousand Rupees” the words “ten thousand rupees” shall be substituted.

11. *Amendment of rule 283 – (Payment of Death Benefit).*— In Rule 283 of the principal rules for the words “thirty thousand rupees” the words “fifty thousand rupees” and for the words “one lakh rupees” the words “two lakh rupees” shall be substituted.

12. *Amendment of rule 285 (Medical Assistance to beneficiaries).*— In Rule 285 of the principal rules for the words “four hundred Rupees”, the words “one thousand rupees”, for the words “forty rupees” the words “one hundred fifty rupees”, for the words “two thousand rupees” the words “five thousand rupees” and for the words “five thousand rupees” the words “fifteen thousand rupees” shall be substituted.

13. *Amendment of rule 287 (Financial assistance for Marriage).*— In rule 287 of the principal rules the entire content shall be replaced by the following para:

“The building workers having continuous membership for three months shall be eligible to get financial assistance of ten thousand rupees for the marriage of their children. A male/female member of this Fund is also eligible for this assistance for his/her own marriage. This assistance shall be sanctioned for the marriage of two children of the beneficiary. An application in Form No. XLIV shall be submitted alongwith such other documents as may be specified by the Board.”

14. *Amendment of rule 288 (Family pension).*— In rule 288 of the principal rules for the words “two hundred rupees”, the words “five hundred rupees” only shall be substituted.

15. *Insertion of new Rule 288 (B) (Treatment of mentally challenged and spastic children of building worker).*— In Rule 288, Rule No. 288 (B) may be inserted for giving

benefit to workers. The detailed scheme is as Annexure I.

16. *Amendment of Rule 290 (2) – (Refund of the contribution of deceased member).*— In Rule 290 (2) principal rules for the words “one year” words “three months” shall be substituted. And after the word “fund” the words “subject to having an Aadhar Card” shall be inserted.

17. *Insertion of new Rule 297 (3) – (Expenditure from the Fund).*— Salaries, allowance and other remuneration of the members and other employees of the Board shall be based on recommendations of pay commission as adopted and made applicable by the Government to its employees from time to time provided no Board shall, in any financial year, incur expenses towards salaries, allowances and other remuneration to its members, officers and other employees and for meeting the other administrative expenses exceeding five per cent of its total expenses during that financial year.

18. *Insertion of new Rule 288 (C) (Menstrual Hygiene Scheme).*— Every building female worker and their daughters studying from class VII (seventh) onwards will use eco-friendly sanitary pads and dispose their used pads in an eco friendly way. This will benefit the health and hygiene of every woman. This facility will bring enormous mental relief/confidence in the minds of both the workers and children and bring down absenteeism in schools/colleges and workplace. Women are prone to reproductive track diseases, and this problem will be addressed through hygienic means. The Board or its authorized sub-committee may formulate a com-prehensive scheme envisaging all factors such as eligibility, quantum of benefits, mode of giving the benefit and also appealing title to the scheme so as to make it beneficiary friendly.

19. *Insertion of new Rule 288 (d) (Mobile Health Dispensary Scheme).*— Building

workers are exposed to occupational hazards at the construction sites on account of nature of the work. Apart from the same the building workers are also required to undergo primary treatment for minor ailment such as cold, fever, de-hydration, muscle cramps etc., which requires prompt medical aid. Sickness of the building workers does not result only in loss of wages but also hampers smooth working resulting in loss in production. To effectively manage such situation and to provide medical aid at work sites, mobile dispensaries shall be provided. Modalities of vehicle, equipments and staff shall be finalized by Board or by the sub-committee appointed by the Board. The Board or sub-committee shall have option to run the above mentioned scheme by out-sourcing the work to a competent agency.

20. *Insertion of new Rule 288 (e) (Setting up Women Hostel Scheme).*— Some of the female building workers are required to work late night with no accommodation at work site nor any transport facilities available to return home. Under the circumstances women hostels becomes the only solace to the suffering female workers. The Board therefore, shall set-up women hostels by acquiring the land at the different locations as the case may be. Parameters of women hostels such as capacity and other facilities shall be decided by the Board or its authorized sub-committee. The Board may also set up women hostels in premises acquired on rental basis depending up-on needs and circumstances.

21. *Insertion of new Rule 288 (f) Mobile Toilet Scheme.*— The Board may provide for mobile toilet with incinerating facilities on payment of nominal charges by contractor or free as per the case may be. Mobile toilets provided by the Board shall be as per the standard specification laid down by the competent authorities in case of pressing needs and circumstances the work of mobile

toilets may be out-sourced for specified period.

22. *Amendment in Form –XXIX (Application for HBA).*— In Form XXIX for the word “HBA” in the title the words “Grant for repair and interest rebate for construction of new House” shall be substituted and for the word “advance” the word “grant” and for the word “HBA” in point No. 9 the words “construction of house” shall be substituted. The entire contents of “mortgage deed” and “stage certificate for release of second installment of advance sanctioned by the Goa Building and Other Construction Workers Welfare Board under Housing Loan scheme” shall be deleted. The contents of Form XXIX shall be read as enclosed as Annexure II.

23. *Amendment in Form–XL (Application for Instrument Loan).*— In Form XL for the words “Application for Instrument Loan” the words “Application for grant for purchase of tools” shall be substituted. For the word “Loan” the word “grant” shall be substituted. The entire contents of point No. 9, 12 (b) shall be deleted. The words “Surety 1. Name & Signature” in Declaration shall be deleted.

The contents of “for office use only” shall be replaced as “The application submitted by Shri _____ employed as _____ in _____ has been verified. The certificate of employment in respect of the borrower has been attached. An amount of Rs. _____ (Rupees _____) may be sanctioned.” The entire contents of “undertaking for recovery from pay” shall be deleted.

Further, the entire contents of Form XL shall be read as enclosed as Annexure III.

By order and in the name of the
Governor of Goa.

A. S. Mahatme, Under Secretary (Labour).

Porvorim, 28th September, 2018.

ANNEXURE I**Treatment of mentally challenged and spastic children of Building worker**

1) *Object*: The scheme contemplates to provide medical/monetary relief to the children of the Building worker covered under the Goa Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. The Assistance shall be to look after the child who is mentally challenged and suffering from spasticity fully dependent upon the parents/guardians for all day to day activities for which a normal child of that age does not need such assistance.

2) *Eligibility*: A construction worker who has put shall be entitled to the benefit on the basis of self certificate and/or the Assistant Labour Commissioner, of the concerned area or the Sarpanch of the respective village panchayat or Registered Trade Union.

3) *Subsistence Allowance*: The child of the mentally challenged worker shall be paid a Subsistence Allowance @ Rs. 5000/- per month.

4) *Submission of claim*: For the claiming the subsistence allowance and application will be forwarded in the prescribed Form 'A' (enclosed) to the Secretary either by self certificate and/or the Assistant Labour Commissioner, of the concerned area or the sarpanch of the respective village panchayat or Registered Trade Union. The Certificate issued by the Medical Board of GMC in case of physically challenged and by IPHB in case if mentally challenged shall be the basis for claiming benefits under this scheme. Mentally challenged child will be eligible to secure the benefit even after the death of his parents/ construction worker provided their guardian submit certificate from the medical officer of the recognize hospital until the childs death.

FORM – XLVII**Form Application for Claiming Re-Imbursement of Expenditure of the Treatment of Mentally Challenged Child/Child Suffering from Spasticity**

To,
The Secretary,
Goa Building and Other Construction
Workers Welfare Board
Sir,

I hereby apply for subsistence allowance for treatment of my son/daughter who is undergoing treatment for _____ (mention the name of the hospital where the treatment has been taken.)

- 1) Name of the applicant in full (in block letters)
- 2) Full address of the applicant
- 3) Name of the Patient
- 4) Date of Birth and Age of the child/dependent (supported by Birth certificate)
- 5) Age and relationship with the worker/applicant.
- 6) Full address of the Hospital where the dependent is undergoing the treatment

7) Amount claimed as subsistence allowance showing the duration of the claim. I, hereby declare that the particulars furnished above are correct to the best of my knowledge and belief. If any of the particulars is found to be incorrect, I realize that I will be liable for suitable action apart from refund of financial assistance received by me.

Signature of the Applicant or Thumb impression
(name in block letters)

Place:

Date:

CERTIFICATE OF THE MEDICAL OFFICE OF THE RECOGNISED MENTAL HOSPITAL

Certified that Kum. _____ son/daughter of Shri./Smt. _____ who is employed as _____ in the establishment of _____ has been examined in this Hospital and has been diagnosed as a case of Mental Retardation/Spasticity and does/does not need active treatment.

Seal of the Medical Superintendent of the Institute of Psychiatry and Human Behaviour, Bambolim in case of mentally retarded child and of orthopedic surgeon/physician of Asilo Hospital Mapusa, Hospicio, Margao and Goa Medical College in case of Spasticity.

CERTIFICATE FROM THE REGISTERED WORKERS UNION

I, the undersigned do hereby certify that Shri/Smt. _____ is working as a construction worker and performs the work a _____ since last _____ months/years.

This certificate is issued in order to certify that the above mentioned person as a building construction worker and for availing the benefits available under the Goa Building and Other Construction Workers Welfare Board.

(Seal)

(Signature, Name and address of Union Leader)

SELF CERTIFICATE

Certified that Shri/Smt. _____ having beneficiary registration No. _____ has worked for 90 days in building and other construction activities in the preceding twelve months in Goa.

Place:

Date:

(signature of the applicant)

ANNEXURE II

FORM-XXIX

[See rule 279(1)]

Application No.

Fees Rs.

Application for Grant for Repair and Interest Rebate for Construction of New House

1. (a) Name of the applicant:
(b) Permanent address:
(c) Present address:
2. Date of Birth:
3. Date of retirement
4. (a) Registration No.:
(b) Date of registration:
(c) Date of remittance:
(d) Date of first remittance:
(e) Date of last remittance:
(f) Total amount remitter:
(g) whether the membership has ever been revived,
if so, details:
(h) Details of revival:
5. Purpose of grant (new construction/Maintenance/
/Purchase of land with building):
6. Whether the applicant has a house of his own
(give details):
7. Amount of grant required:
8. Details of land property:
(a) Panchayat/Town:
(b) Village:
(c) Taluka:
(d) District:
(e) Area:
(f) Survey No.:
(g) Valuation of the property:
9. Whether the applicant has received any other loan
for construction house, give details:
10. Estimate for construction/maintenance of building
as per plan:

11. Details of the amount raised apart from the loan:
12. Whether the applicant has received loan previously from this Board:

DECLARATION

I hereby declare that the above statements are true and correct to the best of my knowledge and belief.

Place: _____

Signature _____

Date: _____

Name _____

Details of documents to be produced:

1. Plan and estimate (approved).
2. Encumbrance certificate of 14 years
3. Location certificate.
4. Land tax receipt.
5. Original document.
6. Attested copy of ration card (pages 2, 4) for maintenance application.
7. Ownership of the building (for maintenance only)
8. Terminal benefit declaration.
9. Attested copies of identity card & passbook.
10. Title clearance certificate.
11. Age certificate of the building (for maintenance only).
12. Valuation certificate of the building (for maintenance only).
13. No objection certificate from the authorities for construction.
14. Declaration from the applicant that neither he/she/nor his/her spouse or children own a house (for new construction).

ANNEXURE III

FORM -XL

[See rule 281]

Application No.

Fee Rs.

APPLICATION FOR GRANT FOR PURCHASE OF TOOLS

1. Name of the applicant:
2. Father's/Husband's Name:
3. Residential Address:
4. Register No.:
5. Name of Bank in which contribution remitted:
6. Age & Date of Birth:
7. Monthly income:
8. Details of other properties if any, owned or possessed by the applicant:
9. Whether salary certificate from the employer is attached:
10. Particulars of Instruments to be purchased:
 - (a) Description:
 - (b) Make:
 - (c) Model:

- (d) Invoice price (copy enclosed):
 (e) Name & Address of supplier/dealer:
 11. (a) Amount of grant applied for:

DECLARATION

- A. I/We confirm that the funds will be used for the stated purpose only and will not be used for speculation and/or anti-social purpose.
 B. I/We understand that the Board has the right to recall the funds if they are not used for the stated purpose.
 C. I/We understand that the sanction of the facility is at the discretion of the Board and I/We will execute necessary Security documents as per the Board's requirements to its satisfaction.

Place: _____

Date: _____

Signature of applicant

(For Office use only)

The application submitted by Shri _____ employed as _____ in _____ has been verified. The certificate of employment in respect of the borrower has been attached. An amount of Rs. _____ (Rupees _____) may be sanctioned.

District Executive Officer
 Secretary

EMPLOYMENT CERTIFICATE

Certified that Shri/Smt. s/o, d/o, w/o of
 House No. Town Desam Village Taluka
 District now residing at House No. Town/Desam
 Village Taluka District is a permanent/
 officiating/acting/provisional (designation).

DETAILS OF HIS/HER SERVICE ARE AS UNDER:

1. Date of entry into service
2. Date of which continuous service begins
3. Date of retirement.....

DETAILS OF HIS/HER PAY, ETC. ARE AS UNDER

- | | |
|---------------------------------|---------------------------|
| 1. Basic pay | (a) Provident Fund |
| 2. Dearness Allowance | (b) LIC recoveries |
| 3. HRA | (c) Income Tax |
| 4. Compensatory Allowance | (d) Loan recoveries |
| | 1. |
| | 2. |
| | 3. |
| 5. Other Allowance | (e) Other recoveries |
| | 1. |
| | 2. |
| Total (A) | Total (B) |
| Net Salary: | (A) – (B) Rs. |

Place

Date

Signature

Name

Designation of the Head of office/Department.

Inspectorate of Factories and Boilers

Notification

VI/BLR/(2)/A-117/(a)/2574

The following draft rules which the Government of Goa proposes to make in exercise of the powers conferred by section 29 of the Boilers Act, 1923 (Act 5 of 1923) so as to further amend the Goa Boiler Rules, 1983 are hereby pre-published as required by section 31 of the said Act, for information of all the persons likely to be affected thereby and notice is hereby given that the said Rules will be taken into consideration by the Government after expiry of a period of sixty days from the date of publication of this Notification in the Official Gazette.

All objections and/or suggestions to the said draft rules may be forwarded to the Secretary (Factories and Boilers), Government of Goa, Secretariat, Porvorim, before the expiry of the said period of sixty days so that they may be taken into consideration at the time of finalization of the said draft Rules.

DRAFT RULES

In exercise of the powers conferred by section 29 of the Boilers Act, 1923 (Act 5 of 1923), and all other powers enabling it in this behalf, the Government of Goa hereby makes the following rules so as to further amend the Goa Boilers Rules, 1983, namely:—

1. *Short title and commencement.*— (1) These rules may be called the Goa Boiler (Fourth Amendment) Rules, 2018.

(2) They shall come into force from the date of their publication in the Official Gazette.

2. *Amendment of rule 36.*— In rule 36 of the Goa Boiler Rules, 1983 (hereinafter referred to as the “principal Rules”),

(i) for sub-rule (2), the following sub-rule shall be substituted namely:—

(2) *Inspection fees.*— Inspection Fees for renewal of certificate of boilers shall be calculated on the basis of rating and shall be levied in accordance with the following scale, namely:—

| | |
|---|--------------|
| For boiler rating not exceeding 10 sq. mts. | Rs. 2,700/-. |
| For boiler rating exceeding 10 sq. mts. but not exceeding 30 sq. mts. | Rs. 3,200/-. |
| For boiler rating exceeding 30 sq. mts. but not exceeding 50 sq. mts. | Rs. 3,900/-. |
| For boiler rating exceeding 50 sq. mts. but not exceeding 70 sq. mts. | Rs. 4,600/-. |
| For boiler rating exceeding 70 sq. mts. but not exceeding 90 sq. mts. | Rs. 5,300/-. |
| For boiler rating exceeding 90 sq. mts. but not exceeding 110 sq. mts. | Rs. 5,900/-. |
| For boiler rating exceeding 110 sq. mts. but not exceeding 200 sq. mts. | Rs. 6,600/-. |
| For boiler rating exceeding 200 sq. mts. but not exceeding 400 sq. mts. | Rs. 7,300/-. |
| For boiler rating exceeding 400 sq. mts. but not exceeding 600 sq. mts. | Rs. 7,900/-. |
| For boiler rating exceeding 600 sq. mts. but not exceeding 800 sq. mts. | Rs. 9,100/-. |

| | |
|---|---------------|
| For boiler rating exceeding 800 sq. mts. but not exceeding 1000 sq. mts. | Rs. 10,500/-. |
| For boiler rating exceeding 1000 sq. mts. but not exceeding 1200 sq. mts. | Rs. 11,900/-. |
| For boiler rating exceeding 1200 sq. mts. but not exceeding 1400 sq. mts. | Rs. 13,200/-. |
| For boiler rating exceeding 1400 sq. mts. but not exceeding 1600 sq. mts. | Rs. 14,400/-. |
| For boiler rating exceeding 1600 sq. mts. but not exceeding 1800 sq. mts. | Rs. 15,800/-. |
| For boiler rating exceeding 1800 sq. mts. but not exceeding 2000 sq. mts. | Rs. 18,500/-. |
| For boiler rating exceeding 2000 sq. mts. but not exceeding 2200 sq. mts. | Rs. 21,000/-. |
| For boiler rating exceeding 2200 sq. mts. but not exceeding 2400 sq. mts. | Rs. 23,700/-. |
| For boiler rating exceeding 2400 sq. mts. but not exceeding 2600 sq. mts. | Rs. 26,300/-. |
| For boiler rating exceeding 2600 sq. mts. but not exceeding 2800 sq. mts. | Rs. 28,900/-. |
| For boiler rating exceeding 2800 sq. mts. but not exceeding 3000 sq. mts. | Rs. 31,500/-. |
| Above 3000 sq. meters for every 200 sq. mts. or part thereof, an additional fee of Rs. 1400/- shall be charged: | |

Provided that when any owner is willing to accept a renewed certificate for less than twelve months in order to approximate the date of annual inspection to the date on which other boilers in the locality are inspected, a certificate for such period of less than twelve months, as may be necessary for such approximation of dates, may be granted at a reduced fee to be calculated at one twelfth of the ordinary fee for each full month, portion of a month will be reckoned as one full month.”;

(ii) in sub-rule (3),-

(A) in clause (a),-

(a) in sub-clause (i), for the letters and figures “Rs. 1000/-”, the letters and figures “Rs. 2,000/-” shall be substituted;

(b) in sub-clause (ii), for the letters and figures “Rs. 500/-”, the letters and figures “Rs. 1000/-” shall be substituted;

(B) in clause (b),-

(a) in sub-clause (i) for the letters and figures “Rs. 1,500/-”, the letters and figures “Rs. 3,000/-” shall be substituted;

(b) in sub-clause (ii), for the letters and figures “Rs. 1000/-”, the letters and figures “Rs. 2,000/-” shall be substituted;

(C) in clause (c), for the letters and figures “Rs. 150/-” and “Rs. 1000/-”, wherever they occur, the letters and figures “Rs. 300/-” and “Rs. 2,000/-” shall be respectively substituted;

(iii) in sub-rule (4), in clause (a),—

(A) in sub-clause (i) and (ii), for the letters and figures “Rs. 1,500/-”, the letters and figures “Rs. 6000/-” shall be substituted;

(B) in sub-clause (iii), for the letters and figures “Rs. 750/-”, the letters and figures “Rs. 3000/-” shall be substituted.

3. *Amendment of rule 38-A.*— For rule 38-A of the principal Rules, the following rule shall be substituted, namely:—

“38-A. *Fees for approval and renewal.*— The fees for the approval of following firms and renewal of its approval shall be calculated on the basis of rates to be levied in accordance with the following scale, namely:—

| | Rs. |
|--|-----------|
| (a) (i) for approval of firm for pipe fabrication | 5,000/-. |
| (ii) for renewal of approval of firm as pipe fabrication firm | 3,200/-. |
| (b) (i) for approval of firm as boiler repairer/erector | 5,000/-. |
| (ii) for renewal of approval of firm as boiler repairer/erector firm | 3,200/-. |
| (c) (i) for approval of firm for manufacture of boilers, economisers, pipes, tubes, pressure vessels and heat exchangers | 20,000/-. |
| (ii) for renewal of approval of firm for manufacturer of boilers, economisers, pipes, tubes, pressure vessels and heat exchangers. | 10,600/-. |
| (d) (i) for approval of firm for manufacture of castings, forgings, valves, forged-flanges and such other fittings. | 12,500/-. |
| (ii) for renewal of approval of firm for manufacture of castings, forgings, valves, forged-flanges and such other fittings. | 7,000/-. |
| (e) (i) for approval of firm for manufacture of plate flanges | 8,800/-. |
| (ii) for renewal of approval of firm for manufacture of plate flanges. | 5,000/-. |
| (f) (i) for approval of testing laboratory | 8,800/-. |
| (ii) for renewal of approval of testing laboratory | 5,000/-. |
| (g) (i) for approval of electrode manufacturer (initial qualification) | 5,000/-. |
| (ii) for renewal of approval of electrode manufacturer (periodical testing) | 3,200/-. |

4. *Amendment of rule 41.*— In rule 41 for the principal Rules, for the letters and figures “Rs. 375/-”, the letters and figures “Rs. 500/-” shall be substituted.

5. *Amendment of rule 42.*— In rule 42 of the principal Rules, for the letters and figures “Rs. 200/-”, the letters and figures “Rs. 300/-” shall be substituted.

6. *Amendment of rule 52.*— In rule 52 of the principal Rules, for the words “rupees three hundred seventy-five”, the words “rupees five hundred” shall be substituted.

By order and in the name of the Governor of Goa.

Vivek P. Marathe, Chief Inspector & ex officio Joint Secretary (F&B).

Panaji, 10th October, 2018.

Department of Personnel

—
Notification

1/21/87-PER (Pt.I)

In exercise of the powers conferred by the proviso to Article 309 of the Constitution of India and in supersession of the Government Notification No. 1/21/87-PER dated 19-09-1991, published in the Official Gazette, Series I No. 46 dated 13-02-1992, the Governor of Goa hereby makes the following rules to regulate the recruitment to the Goa General Service, Group 'B' Non-Ministerial, Non-Gazetted post, in the Directorate of Education, Government of Goa, namely:—

1. *Short title, application and commencement.*— (1) These rules may be called the Government of Goa, Directorate of Education, Goa General Service, Group 'B', Non-Ministerial, Non-Gazetted post, Recruitment Rules, 2018.

(2) They shall apply to the post specified in column (1) of the Schedule to these rules (hereinafter called as the "said Schedule").

(3) They shall come into force from the date of their publication in the Official Gazette.

2. *Number, classification and level in the pay matrix.*— The number of posts, classification of the said post and the level in the pay matrix attached thereto shall be as specified in columns (2) to (4) of the said Schedule:

Provided that the Government may vary the number of posts as specified in column (2) of the said Schedule from time to time subject to exigencies of work.

3. *Method of recruitment, age limit and other qualifications.*— The method of

recruitment to the said post, age limit, qualifications and other matters connected therewith shall be as specified in columns (5) to (13) of the said Schedule.

4. *Disqualification.*— No person who has entered into or contracted a marriage with a person having a spouse living or who, having a spouse living, has entered into or contracted a marriage with any person, shall be eligible for appointment to the service:

Provided that the Government may, if satisfied that such marriage is permissible under the personal law applicable to such person and the other party to the marriage and that there are other grounds for so doing, exempt any person from the operation of this rule.

5. *Power to relax.*— Where, the Government is of the opinion that it is necessary or expedient so to do, it may, by order, for reasons to be recorded in writing and in consultation with the Goa Public Service Commission, relax any of the provisions of these rules with respect to any class or category of persons.

6. *Saving.*— Nothing in these rules shall affect reservation, relaxation of age limit and other concessions required to be provided for scheduled castes and other special categories of persons in accordance with the orders issued by the Government from time to time in that regard.

These rules are issued in consultation with the Goa Public Service Commission conveyed vide its letter No. COM/II/13/15(1)/2018/643 dated 10-09-2018.

By order and in the name of the
Governor of Goa

Isha Khosla, IAS, Special Secretary
(Personnel).

Porvorim, 28th September, 2018.

SCHEDULE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|--|--|-------------------------------|--|--|---|--|-----------------------------------|---|--|---|--|
| Name/ designation of the post | Number of posts | Classifi- cation | Level in the Pay Matrix | Whether selection post or non- selection post | Age limit for direct recruits | Educational and other qualifications required for direct recruits | Whether age & educational qualifications prescribed for the direct recruits will apply in the case of promotees | Period of probation, if any | Method of recruitment, whether by direct recruitment or by promotion/ or by deputation/ transfer/contract and percentage of the vacancies to be filled by various methods | In case of recruit- ment by promotion/ deputation/ transfer, grades from which promotion/ deputation/ transfer is to be made | If a D.P.C./ D.S.C. exists, what is its compo- sition | Circum- stances in which the Goa Public Service Commission is to be consulted in making recruitment |
| Assistant District Educational Inspector/Teacher Grade-I in English/Hindi/Marathi/French/Konkani/History/Geography/Sociology/Psychology/Economics/Book Keeping and Accountancy/Business Studies/Secretarial Practice/Physics/Chemistry/Biology/Mathematics. | 242 (2018) (Subject variation to dependent on workload), | Goa General Service, Group 'B', Non Ministerial, Non-Gazetted. | L-8. | Selection. | Not exceeding 45 years (Relaxable for Government servants upto five years in accordance with the instructions or orders issued by the Government from time to time). | Essential: (i) Master Degree with atleast 50% marks (or its equivalent) from a recognized University in the subject as specified in column (1) applicable to the relevant post in said column (1) and Bachelor of Education (B. Ed) from a recognized Institution by the National Council for Teacher Education. | Age: No. Educational Qualification: Yes. | Two years. | 50% by promotion, failing which, by direct recruitment and 50% by direct recruitment | Promotion: Headmaster of Government Primary School/ Assistant Teacher; with five years regular service in the grade. | Group 'B', D.P.C. consisting of: (i) Chairman/Member, Goa Public Service Commission making direct (ii) Chief recruit-ment, his nominee promotion, —Member. (iii) confirmation, Administrative and amending/relaxing Department —Member. (For promotion and confirmation. Rules. | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|--|---|---|----|----|----|----|
| | | | | | | in column (1) applicable to the relevant post in said column (1) and Bachelor of Education(B. Ed) from a recognized Institution by the National Council for Teacher Education. OR Master Degree with atleast 50% marks (or its equivalent) from a recognized University in the subject as specified in column (1) applicable to the relevant post in said column (1) and B.A. Ed/B.Sc. Ed from a recognized Institution by the National Council for Teacher Education. (ii) Knowledge of Konkani. <i>Desirable:-</i> Knowledge of Marathi. | | | | | | |

Department of Revenue

--

Order

26/07/02/2018-RD/1876

In supersession of all the previous orders for creation/revival/redesignation/upgradation of the various posts, the Government is pleased to indicate the final sanctioned staff strength of the Directorate of Settlement and Land Records, Goa, as under for the next five years:

| Sr. No. | Designation of the Post | Pay Scale | Sanctioned Strength |
|---|--|------------------------------------|---------------------|
| 1 | 2 | 3 | 4 |
| Non Ministerial (Non Lapsable Posts) | | | |
| 1 | Director | Rs. 37400-67000-8700 (GP)—Level 13 | 1 |
| 2 | Dy. Director (Admn.) to be filled from GCS | Rs. 15600-39100-5400 (GP)—Level 10 | 1 |
| 3. | Superintendent of Survey and Land Records | Rs. 9300-34800-4600 (GP) - Level 7 | 2 |
| 4. | Assistant Survey and Settlement Officer | Rs. 9300-34800-4200 (GP) — Level 6 | 1 |
| 5. | Inspector of Survey and Land Records | Rs. 9300-34800-4200 (GP) — Level 6 | 15 |
| 6. | Accountant | Rs. 9300-34800-4200 (GP) — Level 6 | 1 |
| 7. | Supervisor | Rs. 9300-34800-4200 (GP) — Level 6 | 9 |
| 8. | Head Surveyor | Rs. 5200-20200-2800 (GP) — Level 5 | 33 |
| 9. | Draughtsman Grade I | Rs. 9300-34800-4200 (GP) — Level 6 | 3 |
| 10. | Field Surveyor | Rs. 5200-20200-2400 (GP) — Level 4 | 137 |
| 11. | Draughtsman Grade II | Rs. 5200-20200-2400 (GP) — Level 4 | 25 |
| 12. | Machine Operator | Rs. 5200-20200-2400 (GP) — Level 4 | 1 |
| 13. | Book Binder | Rs. 5200-20200-2400 (GP) — Level 4 | 1 |
| 14. | Assistant Book Binder | Rs. 5200-20200-1900 (GP) — Level 2 | 1 |
| Ministerial (Lapsable Posts) | | | |
| 15. | Head Clerk | Rs. 9300-34800-4200 (GP) — Level 6 | 3 |
| 16. | UDC | Rs. 5200-20200-2400 (GP) — Level 5 | 12 |
| 17. | LDC | Rs. 5200-20200-1900 (GP) — Level 2 | 36 |
| 18. | Peon (M.T.S.) | Rs. 5200-20200-1800 (GP) — Level 1 | 20 |
| 19. | Staff Holder | Rs. 5200-20200-1800 (GP) — Level 1 | 20 |
| Total | | | 322 |

As per the recommendation and approval of the High Level Empowered Committee (H.L.E.C.), the following posts shall stand abolished, upon superannuation/retirement of the incumbent or upon the post falling vacant (for whatever reasons).

| Sr. No. | Designation of the post (Non-Ministerial (Lapsable, Posts)) | Name of the Official holding the post | Remarks |
|---------|--|--|---------------------------------------|
| 1. | Machine Operator | Shri Albano Dias | Superannuating w.e.f. February, 2026. |
| 2. | Book Binder | Shri Bombil Kuumbharjevekar | Superannuating w.e.f. April, 2021 |
| 3. | Assistant Book Binder | | Have already lapsed |

Note : The existing strength of the Driver shall be continued, until further assessment of the vehicle fleet and requirement of the Department, and any vacancies arising during the interim period shall not be filled up on regular basis.

This issues with the approval of the High Level Empowered Committee (H.L.E.C.) constituted with the approval of the Council of Ministers in the XXth Meeting held on 08-11-2017 vide Order No. 1/1/2017-Addl. Secy(PER) dated 22-11-2017 issued by the Department of Personnel.

Approval of the High Level Empowered Committee (H.L.E.C.) is conveyed vide letter No. 9/3/HLEC/2018-ARD/254 dated 21-08-2018, issued by the Department of Administrative Reforms, Secretariat.

By order and in the name of the Governor of Goa.

Sudin A. Natu, Under Secretary (Revenue-I).

Porvorim, 4th October, 2018.

Order

26/07/02/2018-RD/1877

Sanction of the Government is hereby accorded for creation of the following posts in the Directorate of Settlement and Land Records, Goa, as per the details shown below:—

| Sr. No. | Designation | Pay Scale | No. of posts created |
|---|--|--------------------------------------|-------------------------------|
| 1 | 2 | 3 | 4 |
| Non Ministerial (Non Lapsable Posts) | | | |
| 1 | Dy. Director (Admn.) to be filled from GCS | Rs. 15600-39100-5400 (GP) – Level 10 | 1 |
| 2 | Inspector of Survey and Land Records | Rs. 9300-34800-4200 (GP)–Level 6 | 8 (as per new Office opening) |
| 3. | Supervisor | Rs. 9300-34800-4200 (GP) — Level 6 | 2 |
| 4. | Head Surveyor | Rs. 5200-20200-2800 (GP) — Level 5 | 8 |
| 5. | Field Surveyor | Rs. 5200-20200-2400 (GP) — Level 4 | 50 |
| 6. | Draughtsman Grade II | Rs. 5200-20200-2400 (GP) — Level 4 | 8 |
| Ministerial (Lapsable Posts) | | | |
| 1. | UDC | Rs. 5200-20200-2400 (GP) — Level 5 | 4 |
| 2. | LDC | Rs. 5200-20200-1900 (GP) — Level 2 | 13 |
| Total | | | 94 |

2. The expenditure on creation of the above posts would be met from the Budget Head mentioned against the posts:—

| Sr. No. | Designation | No. of Posts | Budget Head |
|---|--------------------------------------|--------------|-------------------------------------|
| 1 | 2 | 3 | 4 |
| Non Ministerial (Non Lapsable Posts) | | | |
| 1. | Dy. Director (Admn.) | 1 | 2029 – Land Revenue |
| 2. | Inspector of Survey and Land Records | 4 | 00 – |
| 3. | Supervisor | 2 | 102 – Survey & Settlement Operation |
| 4. | Head Surveyor | 4 | 01 – Salaries (Non Plan) |
| 5. | Field Surveyor | 37 | 01 – Salaries |
| 6. | Draughtsman Grade II | 4 | |
| 7. | Inspector of Survey and Land Records | 2 | 2029 – Land Revenue |
| 8. | Head Surveyor | | 00 – |
| 9. | Field Surveyor | 2 | 102 – Survey & Settlement Operation |
| 10. | Draughtsman Grade II | 2 | 02 – Cadastral Survey (Plan) |
| | | 1 | 01 – Salaries |
| 11. | Inspector of Survey and Land Records | 2 | 2029 – Land Revenue |
| 12. | Head Surveyor | 2 | 00 – |
| 13. | Field Surveyor | 11 | 102 – Survey & Settlement Operation |
| 14. | Draughtsman Grade II | 3 | 04 – City Survey (Plan) |
| | | | 01 – Salaries |
| Ministerial (Lapsable Posts) | | | |
| 1. | UDC | 4 | 2029 – Land Revenue |
| 2. | LDC | 10 | 00 – |
| | | | 102 – Survey & Settlement Operation |
| | | | 01 – Salaries (Non Plan) |
| | | | 01 – Salaries |
| 3. | LDC | 1 | 2029 – Land Revenue |
| | | | 00 – |
| | | | 102 – Survey & Settlement Operation |
| | | | 02 – Cadastral Survey (Plan) |
| | | | 01 – Salaries |
| 4. | LDC | 1 | 2029 – Land Revenue |
| | | | 00 – |
| | | | 102 – Survey & Settlement Operation |
| | | | 04 – City survey (Plan) |
| | | | 01 – Salaries |

3. As per the recommendation and approval of the High Level Empowered Committee (H.L.E.C.), the following posts shall stand abolished, upon superannuation/retirement of the incumbent or upon the post falling vacant (for whatever reasons).

| Sr. No. | Designation of the post (Non-Ministerial (Lapsable Posts)) | Name of the Official holding the post | Remarks |
|---------|---|--|---------------------------------------|
| 1. | Machine Operator | Shri Albano Dias | Superannuating w.e.f. February, 2026. |
| 2. | Book Binder | Shri Bombil Kuumbharjevekar | Superannuating w.e.f. April, 2021 |
| 3. | Assistant Book Binder | | Have already lapsed |

Note : The existing strength of the Driver shall be continued, until further assessment of the vehicle fleet and requirement of the Department, and any vacancies arising during the interim period shall not be filled up on regular basis.

4. This issues with the approval of the High Level Empowered Committee (H.L.E.C.) constituted with the approval of the Council of Ministers in the XXth Meeting held on 08-11-2017 vide Order No. 1/1/2017-Addl. Secy(PER) dated 22-11-2017 issued by the Department of Personnel.

5. Approval of the High Level Empowered Committee (H.L.E.C.) is conveyed vide letter No. 9/3/HLEC/2018-ARD/254 dated 21-08-2018, issued by the Department of Administrative Reforms, Secretariat.

By order and in the name of the Governor of Goa.

Sudin A. Natu, Under Secretary (Revenue-I).

Porvorim, 5th October, 2018.



Department of Social Welfare

Directorate of Social Welfare

--

Order

3-31-2015-16-ADMN/3584

Sanction of the Government is hereby accorded for creation of the following posts as per the details shown below:

| Sr. No. | Designation of the Post | Pay Scale | No. of Posts created |
|---|---|-----------|----------------------|
| 1 | 2 | 3 | 4 |
| Non Ministerial (Non Lapsable) Posts | | | |
| 1. | Deputy Director of Social Welfare | Level 10 | 01 |
| 2. | Assistant Director (Welfare of Differently Abled) | Level 07 | 01 |
| 3. | Superintendent (Detention Centre) | Level 07 | 01 |
| 4. | Counselor | Level 05 | 04 |
| 5. | Junior Stenographer | Level 04 | 01 |

| Ministerial (Lapsable) Posts | | | |
|-------------------------------------|-----------------------|----------|-----------|
| 1. | Office Superintendent | Level 07 | 01 |
| 2. | Head Clerk | Level 05 | 01 |
| 3. | Upper Division Clerk | Level 04 | 04 |
| 4. | Lower Division Clerk | Level 02 | 09 |
| 5. | Field Supervisor | Level 04 | 04 |
| 6. | Multi Tasking Staff | Level 01 | 02 |
| TOTAL | | | 29 |

2. The expenditure on the creation of above posts would be met from the Budget Head mentioned against the posts:—

(i) Non Ministerial (Non Lapsable) Posts Sr. Nos. 1 to 5.

2235 — Social Security & Welfare;

02 — Social Welfare;

01 — Direction & Administration;

01 — Directorate of Social Welfare (NP);

01 — Salaries.

(ii) Ministerial (Lapsable) Posts Sr. Nos. 1 to 6.

2235 — Social Security & Welfare;

02 — Social Welfare;

101 — Welfare of Handicapped;

02 — Strengthening of the Department under (SW) wing;

01 — Salaries.

3. As per the recommendation and approval of the High Level Empowered Committee (H.L.E.C.), the following posts shall stand abolished, upon superannuation/retirement of the incumbent or upon the post falling vacant.

| Sr. No. | Designation of the post (Ministerial Lapsable Posts) | Name of the Official holding the post | Remarks |
|---------|---|--|---------|
| 1. | Nil | | |

4. This issues with the approval of the High Level Empowered Committee (H.L.E.C.) constituted with the approval of the Council of Ministers in the XXth Meeting held on 8-11-2017; vide Order No. 1/1/2017-Addl. Secy. (PER) dated 22-11-2017 issued by Department of Personnel.

5. Approval of the High Level Empowered Committee (H.L.E.C.) is conveyed vide letter No. 9/2/IDCO/2018-ARD/245 dated 21-8-2018 issued by the Department of Administrative Reforms, Secretariat, Porvorim, Goa.

By order and in the name of the Governor of Goa.

S. V. Naik, Director, ex officio Addl. Secretary (Social Welfare).

Panaji, 4th October, 2018.

Department of Urban Development

Municipal Administration

Notification

10/661/2015/DMA/NGT/VOL.III/PART FILE

HOLISTIC POLICY ON SOLID WASTE MANAGEMENT FOR STATE OF GOA

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Executive Summary.— Waste generation is an integral outcome of human existence. With progress comes a change in the waste characteristics and an increase in the quantity of waste.

Goa has had its tryst with the problems of solid waste management and the State Government being aware and concerned of the situation commenced its fight against waste a couple of years back.

The Government constituted a High Level Task Force to resolve the problems of Solid Waste Management. It has also constituted the Monitoring cum Working Committee and has set up Solid Waste Management Cell under the aegis of the Department of Science & Technology, a specialised unit to handle waste.

One of the first decisions taken was to set up three state of the art Integrated Solid Waste Management facilities. A plastic to fuel plant is on the anvil and the these facilities shall be operational shortly.

The Government under the State level advisory body and has amended various rules laws after due consultation with the public, and has made waste segregation at source mandatory. It is presently impressing upon the local bodies on door to door collection of segregated waste.

In a short term perspective dry non-bio-degradable waste is being collected by the GWMC from 190 Panchayats, 13 Municipalities and 1 Corporation. The waste is collected, segregated and the non-recyclable waste is baled at its two baling stations or at the decentralised facilities and is sent for co-processing.

Once the SWMFs come online the designed solid waste management system shall then commence collection of dry and wet waste and deposit it at the SWMF for processing. The design of an efficient and state of the art transfer station network is in progress and shall be constructed and operated by DST.

An area has been identified for setting up a bio-medical waste treatment facility under the Department of Science & Technology.

The Government has allocated areas to various departments to manage solid waste.

Solid waste management is being taken up as a module at school levels to inculcate cleanliness at a very young age. It is a hope that the children will impart civic sense to their parents and hopefully be the change we want to see.

Technology is being used to design, implement, monitor solid waste management MIS, GIS and GPS are being used to efficiently and economically manage the waste.

The SWMP of Goa is in line with the MSW rules, Mall Singh judgement, CPCB guidelines and the Haryana plan. The Goa Solid Waste Management Plan is the result of a study and decisions of the three plans modified to suit the waste characteristics of Goa.

Introduction.— The Government of Goa has given utmost importance to the task of solid waste management. Extracts of the Budget Speech 2015-16 by Hon. Chief Minister of Goa and Minister of Finance, Shri. Laxmikant Parsekar on March 25, 2015 appear below:

(Pg. 6. No. 30) “Sir, scientific solid waste management is the need of the hour, particularly in a state with global recognition for tourism. In this regard, we have commenced the work of state-of-art integrated solid waste management land at Saligao/Calangute plateau, which is slated for completion in 2015-16”.

(Pg. 6. No. 31) “It is proposed that an integrated solid waste management plant at Cacora for South Goa will commence immediately after handing over of land formalities are completed. Both these projects are being taken up at an estimated cost of Rs. 738 crores and I propose to make an allocation of Rs. 30 crores for this purpose in the coming financial year”.

(Pg. 6. No. 32) “This project needs financial outlay for the long period of its operation of 10 years. Being a green initiative, I propose to create a separate mechanism for payment of annuity through various taxes/cess collected by us for Green Goa. This will put in place a regular and predictable payment mechanism for capital grant and gross annual operational support grant to the concessionaire over the decade long contract period”.

(Pg. 6. No. 33) “Apart from this, cleaning of major highways and state roads connecting major towns in Goa has been undertaken and new roads have been added thereby bringing new areas in Porvorim, Saligao, Calangute, Siolim, Raia, Corlim, Ponda under the ambit of the cleanup.”

Goa at a Glance.— Situated in the Konkan region, Goa is the smallest state in India. Synonymous with tourism in India, Goa remains one of the favorite tourist destination for millions across the globe. Bordered by the Arabian Sea on its west, Goa is blessed in terms of topographical beauty.

The state of Goa is divided into two districts North Goa and South Goa. This State is situated on the western coastal region of the Indian Peninsula. Geographically Goa bears a striking resemblance to its neighbouring states of Maharashtra and Karnataka. The state of Goa lies between 15°48'00" north to 14°53'54" north latitudes and 74° 20'13" east to 73° 40'33" east longitudes. The one unique feature about the geography of Goa is that it is a seamless concoction of mountainous, plateau regions and coastal plains.

Goa is situated on the South Western part of India. It is the smallest state in India spreading over an area of 3,702 sq. km. The beaches in Goa cover almost 83 percent of its total coastline. Goa by far is among the most frequented tourist's destinations in India.

Goa is connected by a broad network of roads. Traveling to Goa is extremely easy as it is connected with a number of National and State Highways.

Goa State Information

| | |
|---|--|
| Capital | Panaji |
| Date of formation | 30 May, 1987 |
| Tourist attractions | Anjuna, Arambol, Basilica of Bom Jesus, Se Cathedral |
| Languages | Konkani, Marathi |
| Size | 3,702 sq. km |
| Population (Census 2011) | 1,458,545 |
| Rivers | Mandovi, Zuari, Terekhol, Chapora, Sal, Talpona |
| Forests and wildlife sanctuaries | Bondla WS, Modem NP, Dr Salim Ali Bird Sanctuary, Cotigao WS, Bhagwan Mahavir WS |
| Major crops | Paddy, ragi, maize, cashew |
| No. of District | 2 |

• *Goa and India.*— Goa is the smallest state in the Indian Union with an area of 3,702 square kilometres.

| Rank | State/ Union Territory | Population (2011 Census) ¹² (% population of India) ¹³ | % Decadal Growth (2001- 2011) | Rural Pop. ¹⁴ (%) | Urban Pop. ¹⁴ (%) | Area ¹⁵ | Density |
|--------------|------------------------------|---|--|---------------------------------------|---------------------------------------|--|---|
| NCT | Delhi | 16,753,235 (1.38%) | 21% | 419,319 (02.50%) | 16,333,916 (97.50%) | 1,484 km ² (573 sq mi) | 11,297/km ² (29,260/sq mi) |
| 16 | Punjab | 27,704,236 (2.30%) | 13.7% | 17,316,800 (62.51%) | 10,387,436 (37.49%) | 50,362 km ² (19,445 sq mi) | 550/km ² (1,400/sq mi) |
| 18 | Haryana | 25,353,081 (2.09%) | 19.9% | 16,531,493 (75.75%) | 8,821,588 (24.25%) | 44,212 km ² (17,070 sq mi) | 573/km ² (1,480/sq mi) |
| 26 | Goa | 1,457,723 (0.12%) | 8.2% | 551,414 (37.83%) | 906,309 (62.17%) | 3,702 km ² (1,429 sq mi) | 394/km ² (1,020/sq mi) |
| Total | India | 1,210,193,422 (100%) | 17.64% | 833,087,662 (68.84%) | 377,105,760 (31.16%) | 3,287,240 km² (1,269,210 sq. mi) | 382/km² (990/sq mi) |

Table 1: Population and Population Density of Selected States/UTs

It can be seen from the above table that Goa has one of the lowest population densities in the country.

• Administrative Description of Goa

For administrative purposes, Goa is divided into two districts:

- North Goa
- South Goa

The North Goa and South Goa districts are further divided into 12 talukas.



Figure 1 Administrative Divisions (Districts) of Goa

North Goa District

The area of the District is 1736 Sq. Km. North Goa being a part of the West Coast region of India has many physical features that are common to its neighboring states of Maharashtra and Karnataka. The Talukas present in the North Goa District are as follows:—

- Bardez
- Bicholim
- Pernem
- Sattari
- Tiswadi



South Goa District

South Goa District covers the entire southern part of the state of Goa. From north to south and from east to west the district spans a distance of 86 kms and 40 kms respectively, with an area of 1966 sq.kms. Tehsils/talukas present in South Goa:

- Canacona
- Mormugao
- Salcette
- Sanguem
- Quepem
- Dharbandora
- Ponda



Fig No. (Source)

The administrative map of Goa showing the talukas and the taluka headquarters is given below:



• **Panchayati Raj Institutions in Goa**

The State of Goa has 191 Village Panchayats, 13 Municipal Councils and 1 Corporation.

• **Major Occupations & Sources of Income**

Mining and Tourism form important occupations of the State. Goa is visited per year by a large number of tourists.

• **The Evolution of the Solid Waste Management Plan for Goa**

This chapter provides a brief background on which the present Action Plan for Solid Waste Management has been formulated.

• **Directions of the Hon'ble High Court w.r.t Suo Motu W.P. 2/2007**

In the Order of the Hon'ble High Court dated 13-08-2013 w.r.t Suo Motu Writ Petition 2/2007, specific directions had been given to certain Village Panchayats, Municipal Councils, Corporation and the State Government w.r.t Solid Waste Management; which are as follows:

- Directions to the Corporation/ Municipal Councils included time-bound targets to identify sites and to set-up sanitary landfills (as applicable) for burial of inert/residual waste collected by the Municipal Councils/Corporations. In addition, there were specific directions about collection, baling and disposal of the plastic waste.
- Directions to the Village Panchayats include the following Clauses among others:
 - The Village Panchayats shall ensure that the plastic waste that is collected every week from all wards of the Village Panchayats is baled properly and stored at an appropriate site, until it is collected by the agency appointed for the purpose. If the Government selects a site for storage of plastic waste, the Village Panchayats shall transport the plastic waste to this site in secure condition for baling.
 - The VPs of Calangute, Candolim, Taleigao, Benaulim, Colva and Chicalim have to make adequate composting facilities for disposal of organic/biodegradable waste.
 - The Village Panchayats of Mandrem, Morjim, Taleigao, Benaulim, Varca, Colva, Majorda, Chicalim, Sancoale and Fatorpa were directed not to issue construction licence/s to multi-dwelling projects of 5 residential units and above, until the Goa State Pollution Control Board was satisfied that the plastic waste is collected weekly from all wards of the Village and baled properly for onwards disposal through the plastic waste collector.
 - Directions to the State Government include setting up of two or more sanitary landfills within a period of one year for accepting the residual/inert waste of VPs of North & South Goa, setting up of a plastic waste disposal unit and appointment of an Agency for collection of plastic waste among others.

The above Order w.r.t Suo Motu Writ Petition 2/2007 has been instrumental in initiating a lot of action w.r.t Solid Waste Management in the State, outlined as follows:

- The status of setting up of treatment facilities and sanitary landfills in the Municipal Councils/Corporation is provided in **Annexure A**.
- The status of the compliance by Village Panchayats to the Directions of the Hon'ble High Court is provided at **Annexure B**.

Past the Order of the Hon'ble High Court, the State has undertaken proactive measures towards Solid Waste Management including setting up of a collection mechanism for dry/non-biodegradable waste, undertaking procedures for setting up two solid waste management facilities in the State, etc.

• Directions of the Hon'ble NGT w.r.t O.A. No.199 of 2014 (Almitra H. Patel & Anr. Vs Union of India and Ors.)

The Hon'ble National Green Tribunal vide its Order dated 20-03-2015 has directed all the States to come up with an Action Plan for Solid Waste Management, referring to the following three documents:

- Order of the Hon'ble National Green Tribunal w.r.t O.A. No. 199 of 2014 (Almitra H. Patel & Anr. Vs Union of India & Ors.)
- Order of the Hon'ble NGT w.r.t the case of Capt. Mall Singh Vs State of Punjab
- Plan for Solid Waste Management submitted by the State of Haryana in O.A. No. 199 of 2014.

The Action Plan of Goa and the existing management of Solid Waste is completely in line with the Punjab Plan as well as the Haryana Plan and the Directions of the Hon'ble Tribunal with respect to the following salient features:

- The Integrated Solid Waste Management Facility similar as Saligao plant in Goa are coming up on Curchorem and Panjim.
- The Integrated Solid Waste Management Facilities in Goa will generate Electricity from the waste through a process of Bio-methanation.
- The Integrated Solid Waste Management Facilities in Goa are based on a cluster approach which will source the waste from the respective clusters in North and South Goa.
- A Green Belt will be developed around the Integrated Solid Waste Management Facilities which will cover around 33% of the total area. This will be used for landscaping, for planting trees, developing garden.
- The Goa Non-Biodegradable Garbage (Control) Act, 1996 has been amended to make Segregation at Source compulsory and provisions have been made to fine offenders.
- The dry waste will be further segregated into recyclable and non-recyclable waste. The Recyclable waste will be only given to authorized recyclers for recycling while the Non-Recyclable waste will be either converted into RDF or to Fuel through Plastic to Fuel Technology.
- RDF:
 - **Non-biodegradable and non-recyclable waste** is currently being **collected in a completely segregated manner** from 186 Panchayats out of 190 and 12 M.C.'s out of 13 and the CCP. This waste is baled and sent to Vasavadatta Cement Factory in Karnataka for **Co-Processing** where all the checks and balances for emission standards are taken care of and the technology is **approved by the CPCB**.
- Once the Integrated Solid Waste Management Facilities come up the responsibility of disposing off the non-biodegradable non-recyclable waste will be with the Contractor who may also send it for co-processing.
- **A Plastic to Fuel plant** of 10 tons per day capacity is coming up in Pernem taluka. The non-biodegradable and non-recyclable waste can also be sent to this plant for generation of fuel.

Therefore there will be no incineration of non-biodegradable and non-recyclable waste.

- Biodegradable waste will either be composted or be used for generating Biogas which in turn will be used for generating electricity. No part of biodegradable waste will be incinerated.

Hence, proper collection, treatment and disposal of Municipal Solid Waste will be ensured thereby fully protecting the environmental interest.

• **Principles for waste management.**— The Action Plan on Solid Waste Management presented in the Chapter 5 has been formulated keeping in mind the following principles of waste management:

- Effective Segregation of waste at Source
- Total Collection of waste as per prevailing rules and laws in force.
- Transportation of the collected waste efficiently at the lowest cost.
- Practicing the 4Rs i.e. Refuse, Reduce, Reuse and Recycle at every stage.
- Safe and scientific disposal of all streams of waste.
- Amending laws in accordance with the requirements to ensure the success of the plan.
- Implementing the *Polluter Pays* principle.
- Setting up a financially viable SWM system
- Documentation and quantification of the entire waste management system.
- Periodic Reviewing and feedback of the Solid Waste Management System and applying necessary corrections immediately.
- Utilization of modern technology in SWM like MIS, GIS, etc.

The main goal of the Solid Waste Management Plan is to scientifically dispose the waste at the lowest cost/ton while conforming to all the prevalent laws and thereby ensuring a clean surrounding to all the citizens of the State of Goa.

• **Administrative and Organizational Set-up for Solid Waste Management.**— Since the Organizational set-up for solid waste management is very crucial for effective operation of the entire system of Solid Waste Management, the State is in the process of setting up the required Organizational Structure for SWM. The following paragraphs outline the Organizational set-up in the State of Goa for Solid Waste Management:

• **High Level Task Force on Solid Waste Management.**— A High Level Task Force under the Chairmanship of Hon'ble Chief Minister of Goa has been formed to take decisions pertaining to setting up of solid waste management facilities in the State.

• **Monitoring-cum-Working Committee for Solid Waste Management.**— A Monitoring-cum-Working Committee on Solid Waste Management under the Chairmanship of the Minister of Environment and Forests has been formulated to implement provisions of various Acts and Rules pertaining to Solid Waste Management.

• **Solid Waste Management Cell.**— A Solid Waste Management Cell under the Department of Science and Technology has been formulated to provide secretarial assistance to the Monitoring-cum-Working Committee and to perform tasks pertaining to setting up of the Solid Waste Management facilities in the State.

The Cabinet of the Council of Ministers has also decided that the policy decisions pertaining to Solid Waste Management will be taken by the Department of Science and Technology.

• **SLAB State Level Advisory Body.**— A State Level Advisory Body has been constituted Under rule 23 of Solid Waste Management Rules, 2016. The SLAB has to meet atleast once in 6 months to review the matters related to SWM Rules, 2016.

• **Goa Waste Management Corporation.**— The Goa Waste Management Corporation has been established to make special provision for securing the orderly establishment and development of facilities for management of various types of waste in the manner provided under law.

• **Roles and Responsibilities of the Village Panchayats, Municipal Councils, Corporations.**— As per the Municipal Solid Waste (Management & Handling) Rules, 2000, it is the responsibility of the Local Authority to manage the waste generated within their jurisdiction. The Roles and Responsibilities of various Government bodies w.r.t Solid Waste Management are outlined in the table below:

| S. No. | Organisation | Roles & Responsibilities |
|--------|--|--|
| 1 | High Level Task Force on Solid Waste Management in Goa State(HLTF) | Decision Making body and approving body for all decisions regarding SWM and SWM Plan in Goa |
| 2 | Monitoring cum Working Committee on Solid Waste Management (McWC) | Implementation of HLTF decisions and monitoring body for SWM |
| 3 | Department of Science, Technology & Environment-Solid Waste Management Cell(DSTE – SWMC) | Nodal department for Solid Waste Management in Goa and co-ordinating agency for Solid Waste Management in Goa. Monitoring of SWMF and MRF. Preparation of policies and monitoring implementation of the policies and plans in Goa. Approval authority for all SWM in Goa. Services of the HLTF and McWC. |
| 4a | Department of Urban Development | Nodal department for SWM in all 13 municipalities and 1 Corporation |
| 4b | Department of Panchayats | Nodal department for SWM in all 190 Village Panchayats |
| 4c | Tourism Department | SWM in beaches, tourist sites. |
| 4d | Education Department | Preparation of curriculum for schools and SWM in schools |
| 4e | Industries Department & GIDC | Solid Waste Management in Industrial estates |
| 4f | Goa State Infrastructure Development Corporation Ltd. | Construction of the SWMFs Highway cleaning |
| 4g | Public Works Department | Use of construction & Demolition waste in road building, filling, etc. |
| 4h | Town & Country Planning | Identification of landfill sites. Providing all maps and data as required by the DSTE at no cost. |
| 4i | Collectors & District Magistrate | SWM in all Government offices in the district |
| 4j | Police Department | Implementation of Fines and Solid Waste Management at all police stations |
| 4k | Commercial Taxes | Collection of cess & reporting to High Level Task force |
| 4l | Kadamba Transport Corporation | Solid Waste Management at all bus stands including placement of separate bins |
| 4m | Forest Department | SWM in forests |

It can thus be seen that the state plans to involve all concerned stakeholders to ensure that all areas in the state are maintained clean.

It has been resolved that since Solid Waste Management is a topic to be addressed on priority, the Head of each of the above offices have been designated as the Nodal Officers for all SWM related matters and compliance with directions given by the Government.

- **Treatment and Disposal of Solid Waste**

4.1.1 Treatment and Disposal of Non-biodegradable Waste.— As outlined at Section above, dry waste will be further segregated into recyclable and non-recyclable waste, followed by recycling through authorized recyclers and conversion of the non-recyclable component of the waste into RDF or to Fuel through Plastic to Fuel Technology. Thus, there will be no incineration of non-biodegradable and non-recyclable waste.

4.1.2 Treatment and Disposal of Biodegradable Waste.— Biodegradable waste will either be composted or be used for generating Biogas which in turn will be used for generating electricity at the Solid Waste Management. No part of biodegradable waste will be incinerated.

4.1.3 Disposal of Inert Waste.— Only the residual/inert component of the waste shall be disposed in the sanitary landfill. The inert waste generated shall be handed at the local body level as far as possible.

The disposal of the other special kinds of waste is outlined at Section below.

- **Management of other kinds of waste**

4.2.1 Management of E-waste.— It has been resolved to float an E-tender for management and disposal of E-waste on a pilot basis for a period of 6 months. Thereafter, on studying various aspects of the same including the volume of E-waste collected, the collection mechanism, required systemic procedures, etc., a long term tender for management and disposal of E-waste shall be floated.

- **Management of Bio-medical waste**

As per the Biomedical Waste (Management & Handling) Rules, 1998, the State should have one Common Biomedical Waste Treatment Facility for the State. Accordingly, the Goa Industrial Development Corporation has been entrusted with the task of identifying land for setting up the said facility and is in the process of doing so. The suitability of the site for setting up the said facility shall be ensured by following appropriate procedures. Thereafter, the Department of Science & Technology shall call for Expression of Interest for setting up the said Common Biomedical Waste Treatment Facility in the State of Goa at the identified site.

- **Management of C&D waste**

The Town & Country Planning Departments, the Public Works Department (PWD) shall identify abandoned stone quarries and stretches which require filling for dumping of Construction & Demolition Waste. The State also plans to come up with a strategy for ensuring a monitored deposition of the C&D waste in such identified stretches/quarries. It is also proposed that the Department of Mines & Geology should identify abandoned mines for monitored deposition of C&D waste.

- **Solid Waste Management Plan: Monitoring Mechanism**

The successful implementation of a Solid Waste Management System has Monitoring of each aspect of the System as a very crucial component. The State has taken steps towards this view and this Chapter outlines the monitoring mechanism existing and proposed for solid waste management in the State.

- **Monitoring of the SWMFs**

Being the Implementing Agency for the proposed Solid Waste Management Facilities, the Goa State Management Corporation shall be responsible for monitoring the setting up and operation of the same.

The GWMC, being Nodal Agency for SWM as per the decision of the Cabinet Meeting of the Council of Ministers, shall ensure that the plants are operated with the overall policies for Solid Waste Management for the State.

5.2 Management and Monitoring of the Collection Mechanism.—

The details of the Monitoring and the Management for collection mechanism are found in the table below.

| Transport of waste to and from Transfer Stations | | | | | |
|--|--|--------------------------------------|---|--|-----------------------------------|
| Sr. No. | Description | Transfer Stations in Municipal Areas | Transfer Stations in Industrial Estates | Transfer Stations in Tourism Areas including beaches | Transfer Stations in Forest Areas |
| 1. | Arranging vehicles for transport of waste from points of waste generation (such as Village Panchayats) in the Zone to the Transfer Station | Respective local authority | Respective Industrial Estate | Department of Tourism | Forest Department |
| 2. | Funding for the transport of waste to the Transfer Station | Respective local authority | Respective Industrial Estate | Department of Tourism | Forest Department |
| 3. | Monitoring of the transport of waste to the Transfer Station | Respective local authority | Respective Industrial Estate | Department of Tourism | Forest Department |
| 4. | Arranging vehicles for transport of waste from Transfer Station to the Solid Waste Management Facilities | DST | DST | DST | DST |
| 5. | Funding for the transport of waste to the Solid Waste Management Facilities | DST | DST | DST | DST |
| 6. | Monitoring of the Transport of waste to the SWMFs | DST | DST | DST | DST |

Setting up of Transfer Stations/Pre-processing Centers

| Sr. No. | Description | Transfer Stations in Municipal Areas | Transfer Stations in Industrial Estates | Transfer Stations in Tourism Areas including beaches |
|---------|---|---|---|--|
| 1 | 2 | 3 | 4 | 5 |
| 1. | Allocation of land/space and handing over after completion of all formalities | Directorate of Municipal Administration | GIDC | Department of Tourism |
| 2. | Design | Department of Science & Technology | Department of Science & Technology | Department of Science & Technology |

| 1 | 2 | 3 | 4 | 5 |
|----|--------------------------------------|---|------------------------------------|------------------------------------|
| 3. | Setting up | Department of Science & Technology | Department of Science & Technology | Department of Science & Technology |
| 4. | Funding | Department of Science & Technology | Department of Science & Technology | Department of Science & Technology |
| 5. | Day-to-day Operation and Maintenance | Directorate of Municipal Administration | GIDC | Department of Tourism |
| 6. | Monitoring | Department of Science & Technology | Department of Science & Technology | Department of Science & Technology |

It can be seen that the internal collection within the local body is the mandate of the local authority while the transportation of waste to the proposed SWMF is the responsibility of the DST or Forest Department/Tourism Department, etc. as applicable. The Department of Science and Technology, being the Nodal Agency for Solid Waste Management, shall do the overall monitoring of the collection mechanism.

• Mobile-based “Black Spot” Application

The proposal for creation of a Black Spot Mobile Application has been approved by the High Level Task Force on Solid Waste Management which is the apex body for taking all decisions pertaining to SWM in the State.

The emergence of smartphones and their utility value has been well understood and the Solid Waste Management Cell has proposed the Mobile-based Application to deal with the menace of “Black Spots” appearing in various locations across the State.

“Black Spot” is an undesignated area where solid waste (biodegradable & non-biodegradable) is dumped indiscriminately creating a nuisance and eyesore for the residents of the area, in addition to being a health hazard.

The proposed App shall be based on the following platforms:

1. Android
2. Ios
3. Windows

The minimum requirements shall be a Smartphone having GPS facility and a data connection. The following table will explain the functioning of the App.

| | | |
|-----------------|---|---|
| User | Install Application | <ul style="list-style-type: none"> • Android • Ios • Windows |
| User | Input details | <ul style="list-style-type: none"> • Name • Username • Password • Mobile Phone Number |
| User & Software | Verification & acceptance of terms & conditions | <ul style="list-style-type: none"> • E-mail • SMS |

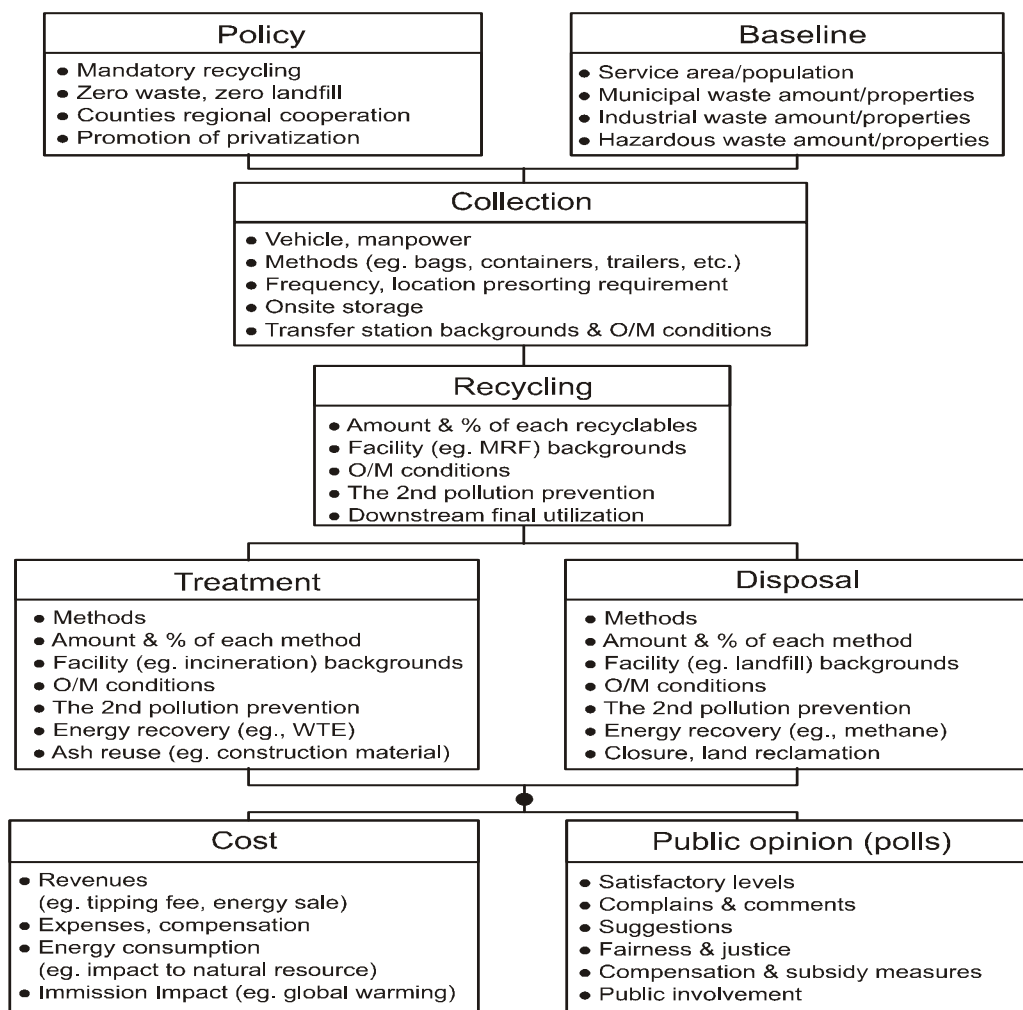
| | | |
|------------|--|---|
| User | Launch Application | When a blackspot is observed the application needs to be launched with the GPS on. |
| User | Use camera button, aim & shoot | The photo of the black spot shall contain metadata and geo tagged. This shall help identify the location upto the variance/accuracy of the mobile phone. <ul style="list-style-type: none"> • Photo • Geo location • Date & Time |
| User | Input of comments | Any comments may be added to this field like date, time, location, when was last seen, etc. |
| Software | Processing of data | Here the data shall be analysed and jurisdiction in which the black spot lies shall be identified. |
| Software | Alert to Village Panchayat/ Municipality, etc. | The geo tag and the software shall identify the area/jurisdiction where the black spot was present. This shall be informed via: <ul style="list-style-type: none"> • SMS • Email |
| Local body | Clean & Inform | The local body shall clear up the black spot, identify the perpetrator if possible, levy the fine etc. and send a photo of the cleared area. |
| User | Response | On completion of the work, the local body shall respond to the identifier. |

The entire system shall be anonymous and shall be a part of the monitoring mechanism. All data shall be checked by an editor.

5.4 Management Information System, GIS & GPS for SWM

It is proposed that the SWMC shall design and implement a MIS and GIS based software for Solid Waste Management in the State. This shall help in the following ways:

- Generation of Demographic map to analyse the quantum of waste generated area wise.
- Generation of data on waste characterization area wise etc.
- Mapping the location of the waste bins and aid in analysing and help in deciding placement of bins.
- Generating routing maps for collection systems (primary and secondary) and thereby creating an efficient system by analysing the data generated from MIS and GIS.
- The investment in an MIS & GIS based software with GPS tracking shall aid in saving collection costs by optimising the routes, decrease in collection timings per bin and also track online the progress of the system in real time.
- Once the system is set up, access shall be given to various functions municipality wise and village panchayat wise. Reports generated shall help in projecting and modifying the SWM plan for the future scientifically and also alert on any change in the waste parameters like quantity, waste characteristics, etc.



O/M: Operation and Maintenance.
 MRF: Material Recycling Facility.
 WTE: Waste To Energy.

• Website and Social Media

The State Government proposes to utilise available and changing technologies in designing, analysing and implementation of the SWM plan. The use of websites for dissemination of information quickly and also in real time to the general public will be leveraged to the maximum. This shall also act as a grievance portal and act as a monitoring mechanism of the SWM for every Village Panchayat, Municipality and other organisations.

The use of social media like Facebook, Twitter is well known. The SWM cell shall design and operate the social media within the parameters set by the State & Central Government. Once the entire mechanism i.e. MIS & GIS, website, social media, Mobile apps are tested and approved by the IT bodies, they shall be linked to make it real time.

6. Solid Waste Management Plan: Financial Aspects

- Expenses towards Solid Waste Management
- Expenses towards SWM at the local body level

Solid Waste Management includes various components such as the provision of infrastructure, tools and implements, man power, setting up the collection mechanism, awareness creation, setting up disposal facilities, sanitary landfills, monitoring, operations and maintenance, etc. and costs incurred towards all these are to be met by the local body. Expenses towards the Solid Waste Management system can be basically classified as follows:

- **Fixed Expenses:** Costs towards Infrastructure, Machinery, Land Acquisition, Set-up of Transfer Stations, Collection Centres, Hardware & Software, etc.

- **Recurring Expenses:** Costs towards payment for utilities such as electricity, water, security, rent, servicing of vehicles, operational costs, maintenance costs, costs for transport of waste, purchase of safety equipment such as masks & gloves, awareness activities, trainings, documentation, etc.

It has been resolved that the respective local authority, shall bear the expenses towards solid waste management including all the fixed and recurring expenses. The local body may seek support from the Government or other sources in various ways as outlined in the paragraphs below.

- **Yearly Payments towards the Solid Waste Management Facilities**

With respect to setting up of the proposed Solid Waste Management Facilities in the State, the Annual Payments to be made to the Contractor have been outlined in the Work Order issued to this effect.

- **Costs towards transport of waste to the Solid Waste Management Facilities**

Costs shall be incurred towards transportation of waste from the Transfer Stations to the solid waste management facilities and such costs shall be borne as outlined by Science & Technology.

- **Sources of funding for Solid Waste Management**

The different sources for meeting the expenses towards solid waste management are outlined in the paragraphs below.

- **Support received from the Directorate of Panchayats and the Directorate of Municipal Administration**

The Directorate of Panchayats (DoP) shall be responsible for seeking financial proposals from Village Panchayats in the State, for Solid Waste Management. It has been resolved that the DoP shall compile all such proposals and submit the same to the Government for exploring the option of getting funds from the Central Government under various Schemes such as the Nirmal Bharat Abhiyan/Swachh Bharat Mission, etc. The DoP, in the past, has provided support to the Panchayats under the Rural Garbage Disposal Scheme.

The Directorate of Urban Development (Municipal Administration) is responsible for addressing the financial requirements towards solid waste management of Municipal Authorities as per the proposals submitted by the Municipal Councils/Corporation. The DMA may seek funds from the Central Government under Schemes like the Nirmal Bharat Abhiyan/Swachh Bharat Mission/Grants under the Finance Commission, etc.

It has been resolved that if there is a shortfall even after roping in funds from the Central Government, the State Government shall consider payment of the same.

- **Levying of Garbage Charges/Fees**

The Panchayat/Council may levy a Charge/Fee for door-to-door collection of waste. The fee levied depends on various factors like the size of the local body, population, social and economic

status, geographical conditions such as terrain, etc. The actual method of implementation and fees for various kinds of organizations/bodies are at the discretion of the respective local body.

• ***Funds collected through the Non-Biodegradable Cess***

As per the Second Amendment to the Goa Non-Biodegradable Garbage (Control) Act 1996, Rules 1997, the State shall levy a Cess of upto 2% of Sale Price on items marketed in non-biodegradable packaging material including bottles and containers, as may be mentioned in such notification, which shall be utilized for implementation of solid waste management schemes including segregation, collection, safe disposal and re-cycling of non-biodegradable waste material and also to promote the sale and use of biodegradable packaging material, bags and containers. The total revenue from the Cess collected as part of this is around Rs 1.638 crores till date.

• ***Funds collected under Green Cess***

The Goa Cess on Products and Substances Causing Pollution (Green Cess) Act, 2013 provides for levying and collection of cess on the products and substances including hazardous substances, which upon their handling or consumption or utilization or combustion or movement or transportation causes pollution of the lithosphere, atmosphere, biosphere, hydrosphere and other environmental resources of the State of Goa, under the concept of "polluter pays principle", and also to provide for measures to reduce the carbon footprint left due to such activities and for matters connected therewith or incidental thereto.

• There shall be levied and collected a cess at such rates as may be specified by the Government by a notification in the Official Gazette, not exceeding two percent of the sale value of the products and/or substances, the handling, utilization, consumption, combustion, transportation or movement, of which, by any means, causes pollution within the State of Goa, from every person carrying out any of the above activities.

• The proceeds of the cess collected under section 4 shall be credited to the Consolidated Fund of the State of Goa and shall be utilized for undertaking the measures to reduce the carbon footprint, by means of such programmes or schemes as may be decided by the Government.

• ***Fines collected under the Goa Non-biodegradable Garbage (Control) Act & Rules***

As per the Third Amendment to the said Act dated 24th September 2014, the following paragraph outlines the fines to be imposed for contravention of provisions of the Act (including littering, non-segregation, etc.):

5A. *Penalty for contravening provision of section 5.*— (1) Whoever contravenes any of the provisions of section 5 of this Act shall be punishable with:—(a) a fine of Rs. 200/- for first offence, Rs. 500/- for the second offence, and Rs. 5000/- or with imprisonment which may extend to one month or with both, for every subsequent offence, when the offence is in relation to a residential house; (b) a fine of Rs. 2000/- for first offence, Rs. 5000/- for the second offence, and Rs. 25000/- or with imprisonment for a term which may extend to six months or with both, for every subsequent offence, when the offence is in relation to a commercial establishment." The officers authorized to fine have been designated and these are Panchayat Secretaries, Police Sub-inspectors, Excise Inspectors, Deputy Collectors, Collectors, All Mamlatdars and Joint Mamlatdars, Chief Officers, Municipal Engineers, Sanitary Inspectors, Municipal Inspectors.

The amount collected under the fines shall be used for different aspects of solid waste management.

• Support received through Corporate Social Responsibility (CSR)

Solid Waste Management includes several aspects such as planning, provision of the required infrastructure, setting up the collection mechanism, etc. The State has been able to rope in funds under the Corporate Social Responsibility (CSR) for supply of infrastructural items like garbage bins, tricycles, cage for storage of waste, etc. for the village panchayats. In addition, a Shed for hosting a Material Recovery Facility has been constructed at Cacora. Also, box-type baling machine and forklift have also been provided through CSR funding, thereby resulting in huge cost savings for the State.

• Funds as part of the Extended Producer Responsibility (EPR)

Since Extended Producer Responsibility is an important aspect, the State plans to rope in funds under EPR to finance aspects of Solid Waste Management.

• Solid Waste Management Plan: Awareness Activities

Undertaking awareness activities is an important part to ensure that all stakeholders are informed about the roles & responsibilities, Schemes & initiatives going on, etc. and are on the same platform. The State has already been undertaking awareness activities as outlined in Chapter 4. This Chapter presents the activities planned by the State in this respect in future.

• Awareness Campaigns

The State, through the Solid Waste Management Cell of the Department of Science & Technology shall formulate and design a Media Plan through a professional Agency for audio, video and print media and implement the same. This plan shall be well spread out in time, shall cover various aspects of solid waste management.

• Preparation of Documents and Resource Material

The State plans to engage a professional agency (as required) for design & preparation of training and resource material, posters, banners, etc. This shall aid in carrying the message of solid waste management to the public; while the training material shall help different stakeholders in Solid Waste Management such as on-field workers, supervisors, managerial staff, etc. to understand and implement effective management of Solid Waste.

• Workshops, Trainings, Meetings, Conferences on Solid Waste Management

The State's participation and initiatives towards undertaking workshops, etc. on solid waste management have been outlined in Chapter 4. The Government of Goa plans to actively continue with such workshops, meetings, etc. since they provide a platform for interaction and seeking clarifications, sharing experiences, etc.

• Site Inspection and Handholding with local bodies

The Solid Waste Management Corporation, to continue the handholding and inspections of local bodies like Panchayats and Municipal Councils. The Directorate of Municipal Administration, the Directorate of Panchayats, and the Block Development Officers shall also handhold the local bodies in implementation, financial and other aspects of solid waste management.

• Activities in Schools

It is planned to conduct training programs and to supply bins to the remaining Schools in the State with the aid of the Department of Education. It is also planned to incorporate topics pertaining to solid waste management in the School curriculum to inculcate an awareness towards the same right from a young age and also to spread the message to the Students' families.

A “Green Goa” Scheme is also planned to be launched for School Students, which shall include distribution of “Do-it-Yourself” cloth bag kits to students. This Scheme shall encourage students to use eco-friendly options like the Cloth Bag, while also carrying the message to their families.

- **Mobilizing Garbage Management Committees in VPs/ MCs**

The Goa Non-biodegradable Garbage (Control) Rules 1997 outlines formation of Garbage Management Committees (GMC) in Village Panchayats and Municipal Councils. These GMCs can play an important role in efficient waste management within the Panchayat/Council jurisdiction. The State envisages to mobilize the setting up and functioning of such GMCs across the State.

- **Role of the District Magistrate**

As per the MSW 2000 Rules, the District Magistrate or the Deputy Commissioner of the concerned district shall have the overall responsibility for the enforcement of the provisions of these rules within the territorial limits of their jurisdiction. A Squad has already been constituted to enforce the provisions of the MSW 2000 Rules, and the Goa Non-biodegradable Garbage (Control) Act, 1996, at the District/Sub-divisional level, in the South Goa District. The Sub-divisional committees formed will monitor the provisions and submit compliance reports. The District Magistrate shall overall monitor the enforcement of the Acts & Rules through the sub-divisional squads and action against any person/s violating the provisions of the Act/Rules shall be initiated.

- **Legal Aspects of Solid Waste Management**

- **Acts & Rules Applicable**

The Municipal Solid Waste (Management & Handling) Rules, 2000 describe the responsibility of every municipal authority within its territory with regards to the provisions of the said Rules and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.

In addition, the State of Goa has enacted the Goa Non-biodegradable Garbage (Control) Act 1996 and Rules 1997, to deal with especially the non-biodegradable component of waste. The said Act includes Clauses that prohibit littering in public places, drains, etc., the duty of owners and occupiers w.r.t. collection of the non-biodegradable waste, penalties for contravening provisions of the Act. The Rules to the Act include various aspects such as Garbage Zones, formation and responsibilities of Garbage Management Committees, powers of different local authorities and members of the Garbage Management Committees, among other Clauses.

- **Amendments to Goa Non-biodegradable Garbage (Control) Act, 1996 & Rules, 1997**

Three Amendments to the Goa Non-biodegradable Garbage (Control) Act have been notified, which are briefly described below:

First and Second Amendments: The said Amendments (dated 29th Sep., 2000 and 28th May, 2013 respectively) enable the State to levy a Cess on items marketed in non-biodegradable packaging material including bottles and containers. The Cess collected shall be utilized for segregation, collection, safe disposal and recycling of non-biodegradable waste material and to promote sale and use of biodegradable packaging material, bags and containers. As per the Second Amendment, the Cess can be upto 2% of the Sale Price of the item.

Third Amendment: The Third Amendment to the Goa Non-biodegradable Garbage (Control) Act has been notified on the 22nd of September 2014, to include mandatory segregation of wet and dry waste by all owners and occupiers. The definition of an “Occupier” was expanded to

include any person in charge of any place owned by the Central/State Government/Government Company/Corporation or any place where exhibitions and other events are organized. The Amendment also outlines fines that shall be imposed for contravening various provisions of the Act.

• Detail Project Implementation Methods On Integrated SWM

9.1 Introduction to Solid waste management

Our day to day living and activities create waste, may it be cooking, eating, constructing, transporting, packaging etc. it's difficult for one to understand and handle or store or may be dispose off the waste. This storing or collecting of waste is called solid waste and can be a risk to public health, environment or aesthetics of the place.

As we are rapidly growing towards urbanization, especially in cities or frequently visited tourist places problems and issues of Solid waste are on a rise and need to be handled immediately, Our Government bodies have understood the importance for the SWM service but are also facing difficulties coz if various factors. May that be rise in population, Human behavior towards cleanliness, deficiency in labour contracts or participation from private sectors.

It is understood from a study that SWM is the second most important problem of any Government after Unemployment. In most cases collection of waste is not handled and we lose on about 1/3 of our collection thus generating undisciplined dumps across the roads, drains, unutilized plots or streets. This uncollected waste further is a cause contributing to flooding, breeding of insects, spreading of foul smell and spreading of diseases. Even waste that is sometimes collected is disposed at an uncontrolled dumpsites or burned, polluting our water resources and air.

In many cases of cities, Municipal solid waste contains Hazardous pollutant chemical waste, hospital waste, Animal excrements, sharp metals etc. This waste facilitates Diseases and injuries among children, rag pickers and employees among SWM Sectors.

Contamination of this kind is likely at all points where waste is handled. Although it is certain that vector insects and rodents can transmit various pathogenic agents (amoebic and bacillary dysenteries, typhoid fever, cholera, yellow fever, plague, and others), it often is difficult to trace the effects of such Transmission to a specific population. The implementation of MSWM practices benefits both public health and environmental quality directly and substantially.

Many factors such as area, population, waste amount must be considered in design of swm plant.

Types of Solid Waste.

- House hold waste (Generally classifies as Municipal waste)
- Commercial waste (Also classifies as Municipal waste collected from market, restaurants etc.)
- Industrial Waste (Can be hazardous waste)
- Biomedical waste (Collected from Hospitals etc. can infectious)

9.2 System and Policies for SWM systems in Goa

A typical waste management system in a low- or middle-income State includes the following elements:

- Waste generation and storage
- Segregation, reuse, and recycling at the household level

- Primary waste collection and transport to a transfer station or community bin
- Street sweeping and cleansing of public places
- Management of the transfer station or community bin
- Secondary collection and transport to the waste disposal site
- Waste disposal in landfills
- Collection, transport, and treatment of recyclables at all points on the solid waste pathway (collection, storage, transport, and disposal) Other activities are equally important:
 - Making policy, as well as setting and enforcing standards and regulations
 - Evaluating data on waste generation and characterization for the purposes of planning and adapting system elements
 - Ensuring that workers and planners get training and capacity development
 - Carrying out public information and awareness and education programs
 - Identifying and implementing financial mechanisms, economic instruments, and cost-recovery systems
 - Incorporating formal and informal elements of the private sector as well as community-based activities and nongovernmental organizations (NGOs)

9.3 SEGREGATION

Certain things that are not needed around the house are kept aside to be sold to the Scrap dealer (*kabadiwala*) or the man who buys old items. These items are newspapers, used bottles, magazines, carry bags, old exercise books, oilcans, etc. This is one form of segregation, which is done as a routine in all households in India. Separating our waste is essential as the amount of waste being generated today causes immense problem. Segregation of municipal solid waste can be clearly understood by schematic representation. Certain items are not biodegradable but can be reused or recycled. In fact, it is believed that a larger portion can be recycled, a part of it can be converted to compost, and only a smaller portion of it is real waste that has no use and has to be discarded.

Household waste should be separated daily into different bags for the different categories of waste such as wet and dry waste, which should be disposed of separately. One should also keep a bin for toxic wastes such as medicines, batteries, dried paint, old bulbs, and dried shoe polish. Wet waste, which consists of leftover foodstuff, vegetable peels, etc., should be put in a compost pit and the compost could be used as manure in the garden. Dry waste consisting of cans, aluminium foils, plastics, metal, glass, and paper could be recycled. If we do not dispose of the waste in a more systematic manner, more than 1400 sq. km. of land, which is the size of the city of Delhi, would be required in the country by the year 2047 to dispose of it.

Segregation of waste

Waste can be segregated as 1. Biodegradable and 2. Nonbiodegradable. **Biodegradable waste** include organic waste, e.g. kitchen waste, vegetables, fruits, flowers, leaves from the garden, and paper. **Nonbiodegradable waste** can be further segregated into: a) Recyclable waste – plastics, paper, glass, metal, etc. b) Toxic waste – old medicines, paints, chemicals, bulbs, spray cans, fertilizer and pesticide containers, batteries, shoe polish. c) Soiled – hospital waste such as cloth soiled with blood and other body fluids. Toxic and soiled waste must be disposed of with utmost care.

Door-to-door collection of waste is another method of segregation, but it is not a common practice as yet in India except in the metros where some private organizations are doing such work. The rag picker plays a very important part in the segregation of waste.

It is now becoming more and more essential to look for methods by which the garbage load on the land can be reduced. It has been seen that at present segregation of waste at source level seems to be the best.

A large number of NGOs (non-governmental organizations) are working in the field of solid waste management such as Clean Ahmedabad Abhiyan in Ahmedabad, Waste-Wise in Bangalore, Mumbai Environmental Action Group in Mumbai, and Vatavaran and Srishti in Delhi. They are all successfully creating awareness among the citizens about their rights and responsibilities towards solid waste and the cleanliness of their city. These organizations promote environmental education and awareness in schools and involve communities in the management of solid waste.

9.4 The Role of the Rag Picker

Rag pickers are the people who are actually going through the garbage bins to pick out the 'rags'. These rag pickers, women, children, and men from the lowest rung in the society, are a common sight in most cities and towns around the country. Rag picking is considered the most menial of all activities and it is people who have no other alternative that are generally driven to it. Rag pickers contribute a great deal to waste management as they scavenge the recyclable matter thereby saving the municipality of the cost and time of collecting and transporting this to the dumps.

The rag picker has a special role to play in the segregation of waste in India. He is one of the focal points for the recycling of waste. He is the person who, in spite of all the dangers that he faces, goes on relentlessly picking through the garbage bin, looking for waste that could be useful to him. He sells all the material he picks to the whole sellers and retailers who in turn sell it to the industry that uses this waste matter as raw material. The main items of collection are plastics, paper, bottles, and cans.

Certain NGOs like Vatavaran in Delhi, CEE (Centre for Environmental Education) in Bangalore and SNDT (Srimati Nathibai Damodar Thackersey) Women's University in Pune have highlighted the cause of the rag pickers and have taken initiatives to improve their lot. Although these efforts are at a local level, they are invaluable. In Bangalore, the **Waste Wise** project was initiated in 1990 with the aim of improving the conditions of the rag pickers and at the same time benefiting the society and the local authorities. SEWA, *Self Employed Women's Association* in Ahmedabad has formed a rag pickers' cooperative and, over the years, has helped the women to organize themselves better and collect waste that is recyclable

Rag pickers are well coordinated in their method of working. Among themselves, they have a good understanding for operating by area. Each group takes specific items from the bins. It has been observed that more and more women and children are getting involved in the business of rag picking. This is a matter of concern as these children who should be spending their time in schools either studying or playing are instead putting themselves at risk by handling waste. While picking through waste, the rag picker puts himself at a great risk and is always prone to disease as the waste that he rummages through can be infected.

We can indirectly help the rag picker by carefully segregating the waste that is generated at our homes, thereby facilitating his search for materials that are useful to him. He will not have to scavenge in the bins for long hours.

9.5 RECYCLING AND RE USE

Recycling involves the collection of used and discarded materials processing these materials and making them into new products. It reduces the amount of waste that is thrown into the community dustbins thereby making the environment cleaner and the air more fresh to breathe.

Surveys carried out by Government and non-government agencies in the country have all recognized the importance of recycling wastes. However, the methodology for safe recycling of waste has not been standardized. Studies have revealed that 7 %-15% of the waste is recycled. If recycling is done in a proper manner, it will solve the problems of waste or garbage. At the community level, a large number of NGOs (Non Governmental Organizations) and private sector enterprises have taken an initiative in segregation and recycling of waste (EXNORA International in Chennai recycles a large part of the waste that is collected). It is being used for composting, making pellets to be used in gasifiers, etc. Plastics are sold to the factories that reuse them. The steps involved in the process prior to recycling include

- a) Collection of waste from doorsteps, commercial places, etc.
- b) Collection of waste from community dumps.
- c) Collection/picking up of waste from final disposal sites.

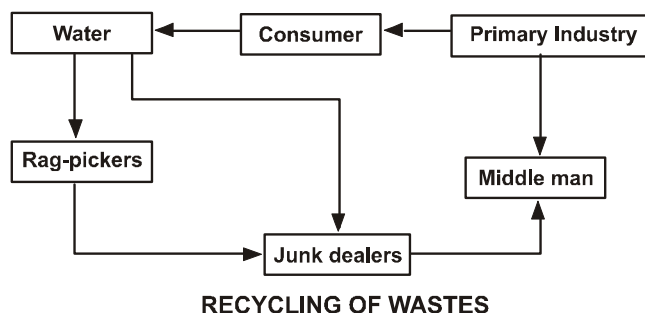
Some items that can be recycled or reused

| | |
|---------------------------|---|
| Paper | Old copies, Old books, Paper bags Newspapers, Old greeting cards, Cardboard box |
| Plastic | Containers, Bottles, Bags, Sheets |
| Glass and ceramics | Bottles, Plates, Cup, Bowls |
| Miscellaneous | Old cans, Utensils, Clothes Furniture |

Most of the garbage generated in the household can be recycled and reused. Organic kitchen waste such as leftover foodstuff, vegetable peels, and spoilt or dried fruits and vegetables can be recycled by putting them in the compost pits that have been dug in the garden. Old newspapers, magazines and bottles can be sold to the *kabadiwala* the man who buys these items from homes.

In your own homes you can contribute to waste reduction and the recycling and reuse of certain items. To cover you books you can use old calendars; old greeting cards can also be reused. Paper can also be made at home through a very simple process and you can paint on them.

The schematic diagram below depicts recycling of wastes



Source: CPCB Report on Management of Municipal Solid Waste

Waste recycling has some significant advantages. It leads to less utilization of raw materials.

Reduces environmental impacts arising from waste treatment and disposal. Makes the surroundings cleaner and healthier. Saves on landfill space, Saves money, Reduces the amount of energy required to manufacture new products. In fact recycling can prevent the creation of waste at the source.

9.6 Treatment and Disposal of Municipal Waste.

As cities are growing in size with a rise in the population, the amount of waste generated is increasing and becoming unmanageable. The local corporations have adapted different methods for the disposal of waste – open dumps, landfills, sanitary landfills, and incineration plants. One of the important methods of waste treatment is composting.

Open dumps.— Open dumps refer to uncovered areas that are used to dump solid waste of all kinds. The waste is untreated, uncovered, and not segregated. It is the breeding ground for flies, rats, and other insects that spread disease. The rainwater run-off from these dumps contaminates nearby land and water thereby spreading disease. In some countries, open dumps are being phased out.

Landfills.— Landfills are generally located in urban areas where a large amount of waste is generated and has to be dumped in a common place. Unlike an open dump, it is a pit that is dug in the ground. The garbage is dumped and the pit is covered thus preventing the breeding of flies and rats. At the end of each day, a layer of soil is scattered on top of it and some mechanism, usually an earth-moving equipment is used to compress the garbage, which now forms a cell. Thus, every day, garbage is dumped and becomes a cell. After the landfill is full, the area is covered with a thick layer of mud and the site can thereafter be developed as a parking lot or a park.

Landfills have many problems. All types of waste is dumped in landfills and when water seeps through them it gets contaminated and in turn pollutes the surrounding area. This contamination of groundwater and soil through landfills is known as leaching.

Sanitary landfills.— An alternative to landfills which will solve the problem of leaching to some extent, is a sanitary landfill which is more hygienic and built in a methodical manner. These are lined with materials that are impermeable such as plastics and clay, and are also built over impermeable soil. Constructing sanitary landfills is very costly and they have their own problems. Some authorities claim that often the plastic liner develops cracks as it reacts with various chemical solvents present in the waste.

The rate of decomposition in sanitary landfills is also extremely variable. This can be due to the fact that less oxygen is available as the garbage is compressed very tightly. It has also been observed that some biodegradable materials do not decompose in a landfill. Another major problem is the development of methane gas, which occurs when little oxygen is present, i.e. during anaerobic decomposition. In some countries, the methane being produced from sanitary landfills is tapped and sold as fuel.

Incineration plants.— This process of burning waste in large furnaces is known as incineration. In these plants the recyclable material is segregated and the rest of the material is burnt. At the end of the process all that is left behind is ash. During the process some of the ash floats out with the hot air. This is called fly ash. Both the fly ash and the ash that is left in the furnace after burning have high concentrations of dangerous toxins such as dioxins and heavy metals. Disposing of this ash is a problem. The ash that is buried at the landfills leaches the area and cause severe contamination.

Burning garbage is not a clean process as it produces tonnes of toxic ash and pollutes the air and water. A large amount of the waste that is burnt here can be recovered and recycled. In fact, at present, incineration is kept as the last resort and is used mainly for treating the infectious waste.

Water based Separation Systems.— Water based separation system utilizes water as its medium combined with mechanical separation performed within a modular apparatus. The system focuses on efficiently separating mixed organic and inorganic household waste. The incoming waste is processed by soaking, separating, melting and precipitating to achieve a very high accuracy in separation. This results in an output stream that is cleanly separated into several defined categories, providing sufficiently pure material for on- or off-site recycling. This high level of recaptured recyclable material greatly reduces the quantity of waste for final landfill, effectively solving today's solid waste crisis. More than 80% of the household waste can be recycled after being sorted by this system.

COMPOSTING

Organic matter constitutes 35%–40% of the municipal solid waste generated in India. This waste can be recycled by the method of composting, one of the oldest forms of disposal. It is the natural process of decomposition of organic waste that yields manure or compost, which is very rich in nutrients. Composting is a biological process in which micro-organisms, mainly fungi and bacteria, convert degradable organic waste into humus like substance. This finished product, which looks like soil, is high in carbon and nitrogen and is an excellent medium for growing plants. The process of composting ensures the waste that is produced in the kitchens is not carelessly thrown and left to rot. It recycles the nutrients and returns them to the soil as nutrients. Apart from being clean, cheap, and safe, composting can significantly reduce the amount of disposable garbage. The organic fertilizer can be used instead of chemical fertilizers and is better specially when used for vegetables. It increases the soil's ability to hold water and makes the soil easier to cultivate. It helped the soil retain more of the plant nutrients.

Composting: some benefits

Compost allows the soil to retain more plant nutrients over a longer period.

It supplies part of the 16 essential elements needed by the plants.

It helps reduce the adverse effects of excessive alkalinity, acidity, or the excessive use of chemical fertilizer.

It makes soil easier to cultivate.

It helps keep the soil cool in summer and warm in winter.

It aids in preventing soil erosion by keeping the soil covered.

It helps in controlling the growth of weeds in the garden.

Vermi-composting has become very popular in the last few years. In this method, worms are added to the compost. These help to break the waste and the added excreta of the worms makes the compost very rich in nutrients. In the activity section of this web site you can learn how to make a compost pit or a vermi-compost pit in your school or in the garden at home.

To make a compost pit, you have to select a cool, shaded corner of the garden or the school compound and dig a pit, which ideally should be 3 feet deep. This depth is convenient for aerobic composting as the compost has to be turned at regular intervals in this process. Preferably the pit should be lined with granite or brick to prevent nitrite pollution of the subsoil water, which is known to be highly toxic. Each time organic matter is added to the pit it should be

covered with a layer of dried leaves or a thin layer of soil which allows air to enter the pit thereby preventing bad odour. At the end of 45 days, the rich pure organic matter is ready to be used.

9.7 Present Position on Swm and financial position in Goa

Goan Municipalities and Panchayats have overall responsibility for solid waste management (SWM) in their Area. However, most of them are currently unable to fulfill their duty to ensure environmentally sound and sustainable ways of dealing with waste generation, collection, transport, treatment, and disposal. The failure of these bodies in solid waste management can result in serious health problems and environmental degradation.

The present total population of Goa is about 14.5 lakhs with moving tourist adding by another an average 26 lakhs per year. This figure generates around 400 – 450 tones of garbage per day. With 13 municipalities and 180 panchayats and 1 corporation. The rural villages of Goa generate the least waste in Goa and on other hand some Grade 1 villages generate sometimes more waste than grade 2 municipalities.

Some case studies also reveal that Goa is slowly affected by urbanization. This results in more and more population and also causing more and more waste.

According to the Central Pollution Control Board (CPCB), average collection coverage ranges from 50 to 90 percent. Furthermore, of all collected waste, 90 percent is disposed of in an unacceptable manner without any consideration of state-of-the art engineering principles. Hence, there is severe degradation of groundwater and surface water through leachate, as well as degradation of air through uncontrolled burning of waste.

There are No facilities provided to locals for recyclable dumps or dumps generated during construction or renovation of house, buildings or any other project.

Eg:- causing dumps all around the highways, drains, municipal waste bins. Such dumps are also not segregated.

9.8 Legal Framework of SWM

In India, SWM is the primary responsibility and duty of the municipal authorities. State legislation and the local acts that govern municipal authorities include special provisions for collection, transport, and disposal of waste. They assign the responsibility for provision of services to the chief executive of the municipal authority. Most state legislation does not cover the necessary technical or organizational details of SWM. Laws talk about sweeping streets, providing receptacles in various parts of the city for storage of waste, and transporting waste to disposal sites in general terms, but they do not clarify how this cleaning shall or can be done. The municipal acts do not specify in clear terms which responsibilities belong to the citizens.

(for example, the responsibility not to litter or the accountability for storing waste at its source). Moreover, they do not mention specific collection systems (such as door-to-door collection of waste), do not mandate appropriate types of waste storage depots, do not require covered waste transport issues, and do not mention aspects of waste treatment or sanitary landfills.

Given the absence of appropriate legislation or of any monitoring mechanism on the performance of municipal authorities, the system of waste management has remained severely deficient and outdated. Inappropriate and unhygienic systems are used. At disposal sites, municipal authorities dump municipal waste, human excreta from slum settlements, industrial waste from small industrial establishments within the city, and biomedical waste without

imposing any restrictions, thus provoking serious problems of health and environmental degradation.

In September 2000, the ministry issued the Municipal Solid Waste (Management and Handling)

Rules 2000 under the Environment Protection Act, 1986. Hence, municipal authorities are responsible for implementing provisions of the 2000 rules. They must provide the infrastructure and services with regard to collection, storage, segregation, transport, treatment, and disposal of MSW. Municipal authorities are requested to obtain authorization (that is, permission or technical clearance) from the state pollution control board or committee to set up waste processing and disposal facilities, and they must deliver annual reports of compliance. The state pollution control boards are directed to process the application of municipal authorities and to issue authorization to the municipalities within 45 days of the application's submission.

The urban development departments of the respective state governments are responsible for enforcing the provisions of the rules in metropolitan cities. The district magistrates or deputy commissioners of the concerned districts are responsible for enforcing the provisions within the territorial limits of their jurisdictions. The state pollution control boards are responsible for monitoring compliance with the standards on groundwater, ambient air, and leachate pollution. They must also monitor compliance with compost quality standards and incineration standards as specified in the rules.

9.9 Collection of Solid Waste

To prohibit littering and to facilitate compliance, municipal authorities must take the following steps:

- Organize collection of MSW at household level by using methods such as door-to-door, house-to-house, or community bin service. Collection must be on a regular pre-informed schedule or by acoustic announcement (without exceeding permissible noise levels).
- Give special consideration to devising waste collection in slums and unlawful tenant areas, as well as to commercial areas such as areas with hotels, restaurants, forming of society and cleanliness rules and office complexes.
- Segregate at the source all recyclable waste, as well as biomedical waste and industrial waste, to prevent special waste from being mixed with ordinary municipal solid waste.
- Collect separately all horticultural waste and construction or demolition waste or debris, and dispose of it following proper norms. Similarly, waste generated at dairies will be regulated in accordance with the state laws.
- Prohibit burning of waste.
- Do not permit stray animals at waste storage facilities.

9.10 Secondary Storage of Waste

With respect to secondary storage of waste, municipal authorities must do the following:

- Make available sufficient storage facilities in accordance to the quantities of waste generated.
- Provide covered storage facility so that waste is not exposed to open atmosphere.
- Ensure that storage facilities are attended daily and are emptied and cleaned regularly.
- Ensure that storage facilities or bins are of an appropriate design for ease in handling, transfer, and transport.

- Ensure that manual handling and multiple handling of waste are avoided or are done with proper safety and care.

9.11 Transport of Waste

The following rules apply to transport of waste:

- Ensure that vehicles used for transport of waste are covered.
- Ensure that waste is not visible to public or exposed to the open environment, thus preventing the scattering of waste.
- Attend to storage facilities daily for clearing of waste.
- Empty bins or containers before they start overflowing.
- Ensure that transport vehicles are designed so that multiple handling of waste is avoided before final disposal.

9.12 Waste Treatment

Waste treatment rules are as follows:

- Ensure that biodegradable waste is processed by composting, vermin composting, Anaerobic digestion or any other appropriate biological process for stabilizing waste. Compost or any other end product must comply with the standards specified.
- Ensure that mixed waste containing recoverable resources follows the route of recycling. Incineration with or without energy recovery may be used in special cases.

9.13 Waste Disposal

- Restrict land-filling to non biodegradable and non-recyclable waste.
- Ensure that land-filling meets the specifications defined in rules.

9.13 ACTION PLAN

Solid waste management rules 2016,

Duties responsibility of Secretary UD, Urban local bodies

Under the Sections 11&15.

| Sr. No. | MSW Components | Present Position | Implementation of Action plan | Time frame |
|---------|--------------------|---|--|---------------------|
| 1 | 2 | 3 | 4 | 5 |
| 01 | Collection of MSW | Door to door, waste received is partly segregated. | 100% segregated waste collection, D2D collection of wet waste daily & Dry waste on specific days. | 30th September 2017 |
| 02 | Secondary Storage | Primary (Secondary) storage are built in most of the wards of ULBs | 100% primary (Secondary) storage to be built either with municipal Funds/ /CSR Funds. | 30th December 2018 |
| 03 | Transport of waste | Councils are available with sufficient vehicles as per waste generated in tons. | 100% segregated trans- -portation needs to be achieved from D2D, Markets, Establishments, Horticulture waste etc. | 30th December 2018 |

| 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|--|
| 04 | Waste Treatment | All 14 ULBs have Waste Sorting & composting Stations, Decentralized Composting & Sorting stations are also been used. | 100% Management of Segregated Waste, Sorting and bailing of dry waste, Composting of bio-degradable waste to be achieved by up gradation of existing facilities. | 30th December 2018 |
| 05 | Waste Disposal (Scientific Land fill) | 5 out of 14 Municipal councils have constructed scientific landfill, 2 are under construction. | ULBs have been requested to identify land and submit proposal for construction of scientific landfill by or before September 2017. Tender to be floated by Dec., 2017 | Construction to start 2018 & to be completed by September 2019 |
| 06 | Levy of user charges & financial sustainability Report | No uniform method or fee structure has been adopted, though draft fee collection manual has been proposed by DMA | Levy of User charges as per waste generators to be implemented and enforced for sustainability of MSW practices. | 30th November 2018 |
| 07 | Scientific disposal of existing dumps, Capping or Bio-remediation | Presently Gsuda has undertaken 3 sites in Goa, Margao sonsodo, Sada Mormugao & Panjim Campal for bio-remediation of waste dumps. | GSUDA to appoint consultant & tender work as per SWM rules, 2016 | Works to be tendered by Jan., 2019. |
| 08 | Setting up of State level Advisory Body. | A committee to be constituted within a period of 6 months from the date of notification of rules 2016, Also recommend State to notify Draft model MSW by-laws rules under the section 11 & 15 | The SLAB shall meet to review the matters related to implementation of these rules 2016 & to give advice on state policy & strategy on MSW | 30 th July, 2017 |

9.14 Steps toward an improved SWM system

MSWM refers to the entire process chain, comprising seven steps: (1) waste segregation and storage at source, (2) primary collection, (3) street sweeping, (4) secondary waste storage, (5) transport of waste, (6) treatment and recycling options for solid waste, and (7) final disposal. All seven steps are equally important and should be harmonized. Authorities need to consider specialized strategies for different waste generators (households, shops and commercial establishments, industries, hospitals, and so forth) and appropriate measures for the different levels in the SWM chain (household level, neighborhood level, regional level, and so forth). They must also coordinate with the different actors in the management of waste throughout the waste management levels.

It is important to note that municipal authorities have the overall responsibility for SWM and, therefore, need to collect useful information on quantity and quality of waste generated in their municipalities. Those quantities may vary seasonally. The quantity of waste in mass is expected to be higher during the monsoon season, when waste will be moister. However, weight will be less during the summer and even less during the winter. Quantifying waste generation according to season is an important precondition for infrastructure planning. Knowledge of physical and chemical composition helps authorities to determine the scope of retrieval of recyclable material and construction debris and to define appropriate technology for treating waste. It also allows them to determine the ultimate requirement of land for final disposal of inert material.

The seven steps described here aim at meeting the requirements of the national rules for municipal solid waste management.

No municipal effort can make a city clean unless its citizens cooperate and take an active part in waste management. Citizens must be informed, educated, and motivated not to litter on the streets so they develop the habit of storing their waste at its source in at least two separate bins (one for biodegradable waste and one for recyclable waste). Citizens also need to be educated about risks to human health and the environment and taught to separate domestic hazardous waste and infectious waste from the other two types of waste.

Municipal authorities must, therefore, make concerted efforts to convince all classes of citizens to store their waste properly:

- The appropriate size of a bin for biodegradable waste is 10 to 15 liters.
- Another bin or a bag of similar size may be used for storing recyclables.
- Bins for shops and establishments should have the capacity to contain the waste that those establishments produce plus 50 percent spare capacity.
- Large establishments may keep larger bins that are coordinated with the municipal transport system.

Selection of Appropriate Collection Vehicles. Collection vehicles must meet the requirements of local conditions. Therefore, an assessment of the housing situation, street conditions, and geographic and topographic situation is always a prerequisite for efficient planning and decision making for primary collection equipment. In general, primary waste collection can be done with slow and smaller vehicles, which do not need to cover very long distances:

9.15 Collection Frequency.

In Goa, which has a hot and humid climate, organic biodegradable waste degrades easily, thereby producing odors and attracting vermin and disease vectors. Therefore, biodegradable waste needs to be collected every day. Dry waste (inorganic recyclables) can be collected less frequently; however, collection at least once per week is advisable. Daily collection service is very important in India. Women responsible for household hygiene would not accept storage of waste in their home for more than 24 hours. When collection service is not provided on a daily basis, they discard waste on the streets. Shops and establishments also do not accept storing waste for more than 24 hours.

Options for Primary Collection. There are two options for primary collection: door-to-door collection at preset intervals or community bin collection.

9.16 Street-Sweeping Tools.

Appropriate tools play an important role for improved efficiency. At present, most of the tools used by the sanitation workers are inefficient or inappropriate. Traditionally, the workforce resists any change, even if it is positive. Persuasion and awareness efforts will, therefore, be necessary to convince the workforce to adopt improved tools and equipments. Working conditions for street sweepers. Street sweeping is a daily task. Therefore, the allocation of work should provide rotating time off to facilitate working on weekends. Given public expectations and local habits in India, street sweeping should be organized for the early morning hours. And a Community collection bin to be attended by the motorized vehicles at night, such a schedule also protects workers from traffic and air pollution. For the rest of the workday, the sweeping crew might be assigned work in slums, informal settlements, areas that are very dense and need special attention, or places that are not covered in a daily schedule of street sweeping in absence of adequate staffing. Street sweeping is generally carried out on two ends of the road or street, and a maximum of 0.75 meters of road width is swept on either side. The central part of the road is generally clean and litter free. If there is a central road divider, four sides have to be swept instead of two sides. Municipal authorities should take into consideration this workload rather than the width of the road when assigning the work. Municipalities may, therefore, plan the schedule of street sweeping depending on the density of area and importance of the road. They should ensure that slum dwellers and informal settlements are not marginalized or left out.

9.17 Waste from hotels or restaurants

- Hotel and restaurant waste has a similar composition to that of household waste but may contain more organic waste.
- In general, hotels and restaurants either receive municipal collection service or must make their own arrangements for waste disposal. Their association may organize collection and transport of waste to the municipal treatment and disposal site.
- If waste is segregated, the recyclable material has a high value and might be collected by a specialized waste collector.
- Reuse and treatment options for the restaurant and kitchen waste should be assessed (such as animal feeding, composting).

9.18 Waste from fruit and vegetable markets

- Market waste contains a high fraction of biodegradable waste. Therefore, the waste might be of value for specialized waste treatment plants such as composting sites.
- Options for private collection should be assessed because private operators might have interest in such waste. Daily collection is necessary to avoid animals and odor within the market premises.
- Markets require large but easily accessible containers, which should be transported and emptied during nonpeak hours.
- Waste from meat and fish markets requires closed containers and frequent collection services to avoid odor and attraction of vermin.

9.19 Waste from parks and gardens

- Park and garden waste mainly consists of biodegradable waste and litter.
- The organic fraction might be treated directly in the park or garden and converted into compost.
- Litter must be collected in litter bins in the park or garden. This waste could be collected on a daily basis.
- If treatment of garden waste is not possible within the premises and if garden waste is generated in private places, such waste could be collected on a weekly basis by arranging a rotation schedule.

9.20 Construction and demolition debris

- Demolition debris is a big issue in Indian cities. Many vacant plots are misused and spoiled with illegal disposal of debris, causing considerable costs for the municipality and for private owners.
- Because such debris is rather inert, it does not cause direct harm to people and the environment. Therefore, such waste could be collected separately and taken to landfill sites to be used as inert cover material. Another option is to use this material to fill low-lying areas in the city. This option will eliminate the need to take such waste to landfills and thereby save precious landfill space.
- Demolition waste management needs special attention and monitoring. A closer cooperation with the construction sector might be necessary. Every likely generator may be required to deposit an approximate amount in advance at the prescribed rates with the municipal authority.
- The municipal authority should prescribe the rate per metric ton for the collection, transport, and disposal of construction waste and debris and should announce such rates to the public.
- In many countries, debris management is outsourced to private companies but closely monitored by municipal authorities.
- Skip containers that are lifted on trucks are most suitable for debris collection and transport.

9.21 Improve Final Disposal of Waste by Constructing Engineered Landfills

Open dumping of waste can cause irreparable damage to the environment by polluting land, water, and air; adversely affecting human health; and lowering people's quality of life. Prohibit open dumps and require municipal authorities to safely dispose of solid waste in engineered landfills. The rules further mandate treatment of the organic fraction of solid waste before final disposal in the landfill sites. Thus, only rejects and degraded waste can be placed in landfills.

Facilities at the Site. The guidelines include several provisions regarding facilities:—

- Landfill sites must be fenced or hedged and must be provided with a proper gate to monitor incoming vehicles or other modes of transport.

- Landfill sites must be well protected to prevent entry of unauthorized persons and stray animals.
- Approach and other internal roads for free movement of vehicles and other machinery must exist at the landfill site.
- Landfill sites must have a waste inspection facility to monitor waste brought to the landfill, an office facility for recordkeeping, and a shelter for equipment and machinery, including pollution-monitoring equipment.
- A weigh bridge to measure the quantity of waste brought to the landfill, fire protection equipment, and other facilities should be provided as required.
- Utilities such as drinking water and lighting arrangements for easy landfill operations when carried out in night hours must be provided. If possible, bathing facilities for workers should be provided.
- Safety provisions, such as health inspection for landfill workers, must be periodically made.

9.22 FINANCIAL GROUNDS

Municipality and Panchyats in Goa levy taxes, charges, and fees such as those listed next to gain revenues and to improve their financial situation.* Some municipalities in India also levy monthly user fees or charges for water, drainage, and sanitation to meet the necessary operating and maintenance cost of the service. By and large, however, municipal authorities suffer a major deficit of funds to meet their obligations.

The following are principal sources of municipal authorities' income:

- Property and house taxes
- *Door to Door garbage collection fees
- Fees for passing building plans
- Levies on advertisement through hoardings, signboards etc.
- Rents from municipal properties
- Fees from licenses for various trades
- Parking fees

Most authorities in the State are not in a position to meet their financial needs from the internal financial resources of the area. They therefore fall back on the state government for grants. The states give the municipalities grants for paying staff salaries as well as for carrying out development work. This dependence on state government grants is not sustainable in the long term, and municipalities need to find ways to fund services from their own resources.

9.23 Methods to improve Financial position and Private Sector Participation

Levy and Recovery of Taxes and Charges

Most municipal or panchayat authorities do not levy sufficient taxes. The tax base is generally very weak. The basic valuation from which the level of taxes is calculated is faulty or is deliberately kept low to reduce the burden on the taxpayers. The situation for tax recovery is also very poor. First, many taxable properties are not registered. Certain property holders somehow manage to escape the tax net. Those who are assessed are quite often under assessed and do not pay their taxes regularly. Second, the mechanism of tax recovery is poor. The rates

of tax recovery generally range between 30 and 50 percent. In this situation, the financial health of Authorities in Goa is poor, and they are unable to fulfill their obligations. Most of the authorities allocate general funds to cover the costs of SWM services. They most often do not levy any sanitation or city cleaning tax, nor do they impose user fees for waste collection service or for any other SWM service. Very few cities have mustered courage to levy user fees for door-to-door collection and now this service fees should be made compulsory inclusive in the house tax or as a collection fee, a tax receipt should be made compulsory at various renewing documentation so that one doesn't fail to pay, and if people pay they would definitely start using the service of door to door.

The following measures could help improve the financial health

1. Identify priority areas.

- Prioritize the services that the municipal authority has to provide.
- Put SWM service in the top priority list because it is an essential service and obligatory for the municipal authorities to perform.
- Put all non obligatory functions in a separate category of duties that may be performed only after providing adequate funds for satisfactory performance of all essential services.
- Ban wasteful expenditures.

2. Define priorities for obligatory services.

- Decide the minimum level of service the municipal authority would like to provide in each category of service in a given time frame.
- Estimate the funds required to provide that level of service.
- Set the priority of the essential services among themselves, giving due priority to SWM services.
- Allocate funds for each service.
- Decide the critical area in each service and use the funds to optimize the benefits to society.
- Defer expenditures that can wait.

3. Improve tax collection efficiency.

- Critically look into the existing mechanisms and efficiency of tax collection and collection of charges, fees, and other income sources prescribed by the municipal authorities.
- Identify the leaks or lapses in the system.
- Plug the leaks and maximize the efficiency of collection of taxes, charges, and fees.
- Get professional or private sector help in this area wherever required.
- Use the additional funds generated through this effort for the essential services.
- Streamline procedural steps for debt collection from non payers.

4. Review the existing rates and charges.

- Compare existing rates of taxes and charges to the current cost of services.

- Make sure that citizens are reasonably taxed for the services they receive. Rates that are too low may be suitably increased to reduce the gap between income and expenditure.
- Rationalize the property tax structure, preferably on the basis of carpet area or plinth area rather than on the basis of rents.
- Introduce the element of cost recovery for specialized services rendered, particularly in the case of doorstep services or nondomestic waste collection services.

5. Encourage NGO and private sector participation.

- List all the SWM activities performed by the municipal authority.
- Identify the areas where NGO or private sector participation or contracting out of services is desirable.
- Change policy: instead of being a provider, become an enabler of the service.
- Determine which services can be covered by the private sector, an NGO, or a cooperative for direct payment from users to reduce the burden on the municipal authority.
- In such areas, carefully monitor the performance of the NGO or private sector provider to ensure required levels of service are met.

CSR/Private Sector Participation, Rules and regularizations

Private sector can be brought in developing the infrastructure of SWM, Dry Wet Bins with Bags can be placed on decorative stand units sponsored by private sectors along the city limits and tourist area's, Garbage collection tricycle or rickshaws can be sponsored by few private sectors. (eg. 5 star, 4 star hotels, corporate, casino's, pharmaceutical companies, Construction companies etc.)

Specification of waste bins should be implemented to business bodies and the same should be installed. No waste check or compulsion is made to have specific size or segregation of bins. Both dry and wet bins must be made compulsory for units or business selling or trading with goods that generate waste, eg. In any general store chocolates are available but no bin is provided outside the store or on the footpath for one to throw paper or its plastic. Like its compulsory to have fire extinguisher in every commercial property it should be mandatory to have a wet and dry bin, this would reduce cost burden on municipal authority on erecting bins and 60% -70 % segregated waste can be made available from the market or commercial areas. Use of Flex or Vinyl Banners should be limited to only paid hoarding where hoarding company takes responsibility of disposal of waste. Strict municipal action must be initiated on banners or posters placed in the city, heavy fines should be recovered, paid boards or wall area must be erected or permitted where facility is available to paste posters where one takes responsibility of disposing the waste. Such unauthorized boards or banners also add as poor aesthetic or visual of the place. (Political banners, Devastan banners, business promotion banners.) It should be made Compulsory for multiple dwelling projects and housing societies to provide garbage units within their premises where dry and wet garbage is collected effectively everyday in segregated form.

A clear state policy and legal framework are needed to facilitate private sector participation in SWM service. The state government should declare a state policy facilitating such participation.

9.24 General Information Regulations followed at the City Level or village level

- Area of the city/village
- Population of the city/village

- Decadal growth of population
- Number of wards, their area and population
- Ward information regarding the following:
 - Population density of different wards
 - Number of households, shops, and establishments
 - Number of vegetable, fruit, meat, and fish markets
 - Number of hotels and restaurants
 - Number of hospitals and nursing homes
 - Number of factories and manufactories
 - Number of slum areas and their population
- Road length and width
- Percentage of area covered by an underground sewage system
- Percentage of area having surface drains
- Percentage of area having no drainage facility
- Number of public toilets and toilet seats
- Number of public urinals
- Number of nuisance spots

Waste Generation

- Average quantity of waste produced each day
- Seasonal variations in daily waste generation
- Total quantity of waste produced annually during the past three years
- Breakdown of the quantity of wastes generated:
 - Household, shops, and establishment waste
 - Vegetable and food market waste
 - Meat, fish, and slaughterhouse waste
 - Construction and demolition waste
 - Hospital waste
 - Industrial waste
- Average number of carcasses removed each day

Staff Positions

- Number of sanitation workers for collection
- Number of sanitation workers for the transport of waste
- Allocation of sanitation workers by ward
- Sweeper population ratio in each ward
- Sweeper road-length ratio in each ward
- Sweeper supervisor ratio in each ward

Waste Storage Depots

- Number of sites designated for temporary storage of waste (dustbins)
- Type and size of dustbin provided in each ward
- Quantity of waste generated each day by ward

Transport

- Number of vehicles available and their types, size, and age
- Number of trips made by each vehicle in one shift
- Number of vehicles used in the first, second, and third shifts
- Quantity of waste transported in each shift
- Total quantity of waste transported each day
- Percentage of total waste generated that is transported each day

Waste Processing and Disposal

- Number of waste processing and disposal sites in the city
- their distances from the center of the city
- Area of these sites
- Quantity of waste treated or disposed of at each site
- Expected life of each landfill site

Financial Aspects

- Operating cost
- Cost of collection per ton per day
- Cost of transport per ton per day
- Cost of disposal per ton per day
- Allocation of revenue and capital budget

Similarly Weekly and Monthly supervision and reports must be prepared along with registered garbage complaints and action taken on it. Workshop must be conducted to motivate and improvising techniques, methods and communication between fellow staff while collections and disposal.

9.25 Awareness and Public Motivation

It is very essential to understand that Solid waste management is not just the responsibility of the authorities but it requires public participation, One needs to understand that “there exists NO Technology where one side you dump Municipal Solid waste and other side it gets recycled or treated”. There exist technology which helps in segregation of mixed solid waste but it's important that individuals should understand the importance of segregated collection of dry and wet waste in bins, this bins preferably should have colour codes which should also be placed at various public areas or community bin areas. In Most of the Developed Countries like U.K., Europe etc. such colour coding for bins are already in practice.

A clean city is a concerted effort by the city managers and the civil society. The decision-making process for managing solid waste in urban areas is going through a pattern shift from the “decide, announce, defend” premise of local authorities to more involved public participation.

Solid waste management (SWM) is an activity in which public participation holds the key to success. An urban local body (ULB) can never be successful in SWM without active community participation. The solution is not in the hands of one stakeholder but depends on the interest and participation of all stakeholders. Awareness and education campaigns should target municipal authorities, elected representatives, schools, nongovernmental organizations (NGOs), media, trade associations, families, and the public at large. To economically and efficiently operate a waste management program, regardless of the strategy, requires significant

cooperation from the waste generators. Public involvement is therefore necessary in all waste management and disposal activities.

9.26 Citizens Charter A 10-Point Charter to Achieve Zero-Garbage Status

The charter follows:—

1. Extend the scheme of door-to-door collection with segregation to the entire town and make streets and roads free of garbage.
2. Introduce night sweeping at bus stands and on important roads and maintain cleanliness throughout the day.
3. Extend door-to-door collection and street sweeping to holidays and Sundays.
4. Maintain parks, gardens, and open spaces through participation by NGOs and voluntary agencies.
5. Remove encroachments from roads and streets and prevent re encroachments.
6. Prevent the roadside hotels, truck repair shops, and other businesses from dirtying Salem Road and maintain the road by planting trees.
7. Remove stray pigs and dogs from the town.
8. Levy SWM service charges on hotels, Marriage halls, commercial complexes, and garbage-generating industries.
9. Generate vermin-compost from organic waste through eco-friendly techniques by involving voluntary organizations and private bodies on a build, operate, transfer basis, sell the inorganic recyclable garbage, and convert the compost yard into gardens.
10. Engage two mop-up teams with two auto model carriers to remove waste around the clock and make the town free of garbage all the time.

Because local support is essential to the success of any project, Authorities need to consider ways of informing residents about regionalization and its advantages. Moreover, various societal groups have a stake in the SWM process, and they should contribute and share concerns during the planning process. Thus, the regionalization effort should include a public education component that

- Educates citizens about the purposes of regionalization and the expected benefits to the community
- Informs people about the ways in which planned changes in SWM could affect them (for example, a decision to collect and market recyclables in more than one jurisdiction, which could alter the way households dispose of their trash or separate their recyclables)
- Invites residents to participate in SWM decision making by using techniques such as conducting town meetings and having citizen representation on the committees.

Authorities need to provide a workplace for rag pickers through NGOs to facilitate sorting of recyclable waste.

9.27 NGOs and CBOs (Community based organizations): Shaping New Municipal Solid Waste Management Practices in Recycling

The 2000/2016 rules explicitly mention the key role of NGOs and CBOs in improving municipal solid waste management. NGOs have more leeway for their activities and can establish strong partnerships with municipalities. NGOs and CBOs are great institutions for organizing people

and promoting citizen participation; they are also a natural venue for implementing waste minimization programs. The role of NGOs and CBOs includes several tasks:

- Undertake phased programs to encourage citizens to segregate waste at source.
- Train informal rag pickers to become professional waste workers in the private sector. Link them with households and neighborhoods in urban areas that are demanding door-to-door collection services for organic and recyclable waste.
- Establish cooperatives of rag pickers and facilitate direct access to recycling industries so that rag pickers get full value for the waste they collect.
- Promote conversion of waste materials (paper and plastics) into useful products.
- Promote the use of two domestic bins at home: one for biodegradable food waste and one for recyclable material.
- If waste is collected daily, prohibit waste disposal on the streets. Waste should be collected door to door or from nearby collection bins. Prohibit littering in streets.
- Promote composting at the household level where appropriate. Households can easily compost their kitchen waste, leaves, grass clippings, and garden plants within their premises if space is available.

Municipal officials should understand their role and relationship with the rest of the community. The following messages should be given to municipal officials:

- Health officers and engineers play key roles in the SWM system, but they need to understand that they ultimately respond to the needs of the population. Therefore, receiving feedback and concerns from stakeholders is essential.
- Many times people are skeptical of working with municipal authorities.
- In any community participation project, municipal officers need to take the backseat and share their powers with the waste management committee. However, they still have the technical knowledge and need to properly communicate when decisions are not suitable.
- Municipal officials need to enable the training and capacity building of resident welfare associations (RWAs). Officials should empower RWAs but not overburden them.

Training NGOs, CBOs, and RWAs to motivate the community toward waste management is important for ensuring the sustainability of a system. Local NGOs can also be trained to set up appropriate pilot units for the selected waste streams. All stakeholders need to be oriented toward segregation at source and to understand the problems and health issues concerned with inefficient disposal of municipal solid waste. IEC is normally done by the key NGOs for CBOs, RWAs, and local municipal officials. Municipalities have been involving key NGOs through tender advertisements and calls for taking up training assignments of this nature.

Some methods to be applied for Motivation and awareness are such as:

- Door-to-Door Motivation and awareness program to be conducted.
- Education material such as leaflets posters explaining segregation must be distributed.
- Organizing community rallies on environment day, earth day etc. A rally always build excitement among the onlookers and propels the people who attend the rallies to motivate other members of society.

- Street Plays builds awareness about waste management and motivates non participating residents.
- Cleanup Drives, Cleanup drives have always made the community realize the advantages of cleanliness.
- Signature Campaign, such as bans on plastics, temple waste management, segregation of waste, and sanitation can be used to get opinion.
- School and College Programs, Children are strong communicators. Because school children are the beneficiaries of a better tomorrow. Involvement of National Cadet Corps, National Social Service, and Scouts.
- Involvement of Religious Leaders, Religious leaders plays a significant role in changing people's minds.
- Involvement of Mahila Mandals and Women's Associations.
- Mass Communication Methods, Mass communication methods include print media; television, radio, and the Internet and cinema theatres.

A theme to be Followed for a period of 2 months "MY CLEAN & GREEN GOA". Commercial establishments, Taxis, Motorcyclists, Police, Youth, Students, travel agents etc. should be motivated. Egg tourist entering Goa by road or flight, bus cleaners announcing Keep Have a nice stay and keep Goa clean and green, similarly at the airport, the taxi operators, restaurants, local Stores, students educating locals etc. should address their customers, friends, tourist with the theme of "My clean and Green Goa". Our Government offices, our Seniors officials, even our Ministers and Mla's can address the house or public with the theme "My Clean and Green Goa."

Use Media, Like Local T.V. Channels, Radio, news paper to promote the theme and Spread a Positive theme. "My Clean and Green Goa".

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